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Key to Abbreviations

Add.—Address.
Or.—Original Article.
C. R.—Case Report.
B. M.—Bedside Medicine.
Ed.—Editorial.
M. T.—Medicine Today.
C. N.—Clinical Notes.
L. M. H.—Lure of Medical History.

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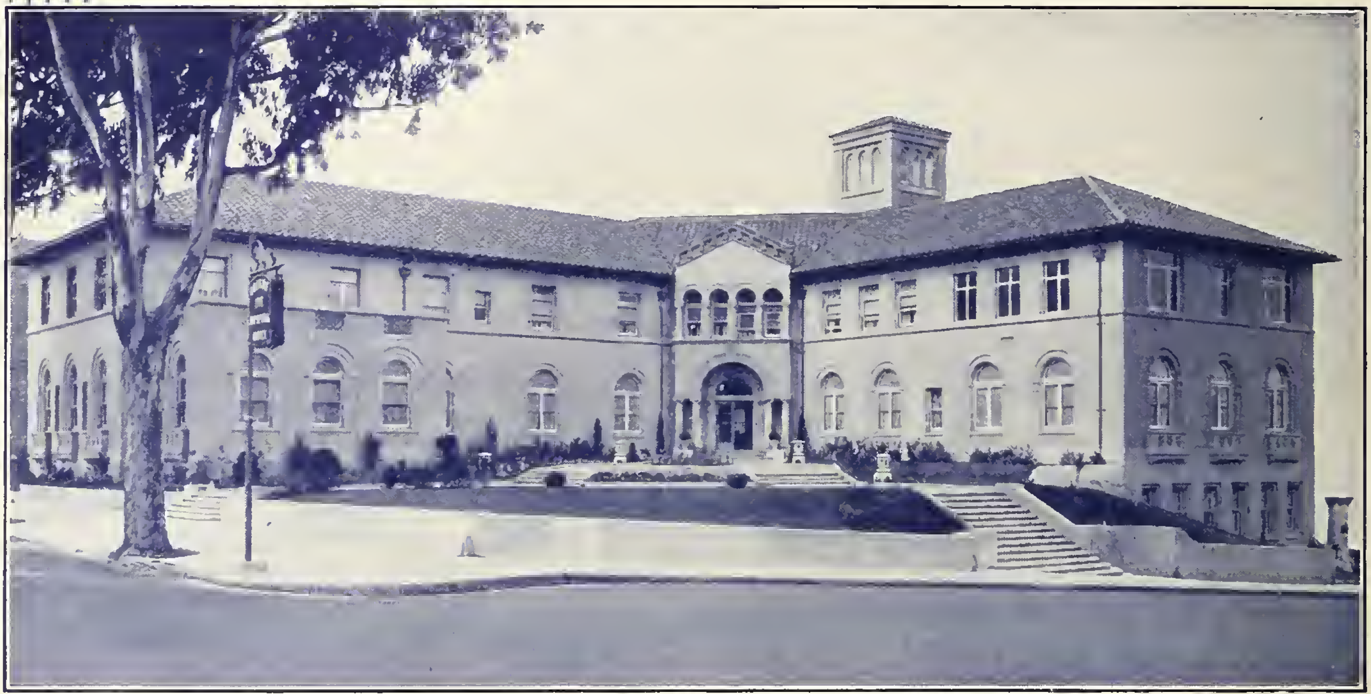

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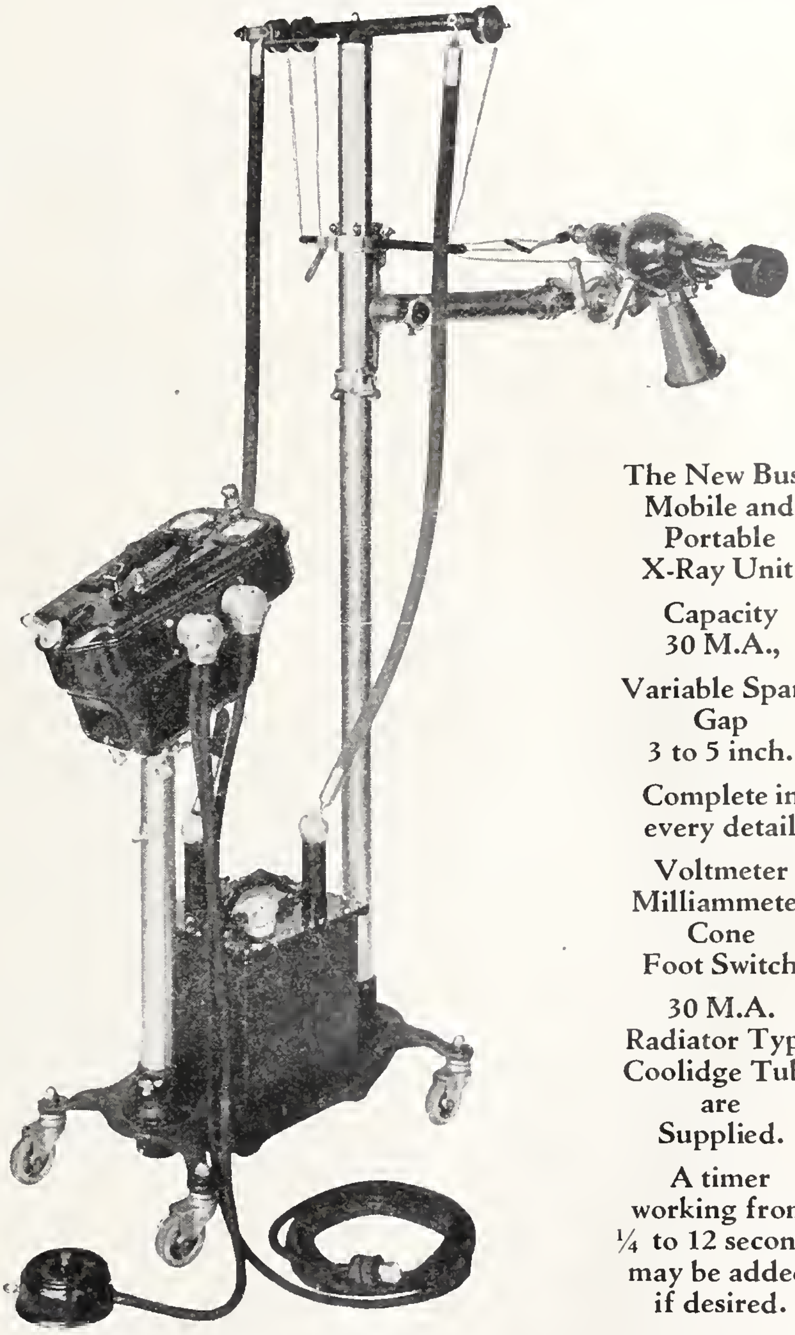

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Intestinal Toxemia. Biologically Considered. By Anthony Bassler, M. D., F. A. C. P., Consulting Gastroenterologist, St. Vincent's, People's and Jewish Memorial Hospitals, New York City; St. John's Hospital, Yonkers; Christ Hospital, Jersey City. Cloth. Pp. 433, illustrated with 16 text cuts. Price, $6.00 net. Philadelphia: F. A. Davis Company, 1930.

Practical Treatise on Diseases of the Digestive System. By L. Winfield Kohn, M. D., F. A. C. P., formerly Assistant in the Gastro-intestinal Clinic, Johns Hopkins Hospital, Baltimore; Chief of the Clinic of Gastro-enterology, Medico-Chirurgical College, Philadelphia. In two volumes. Cloth. Pp. 1125, illustrated with 542 engravings, including 7 full-page colored plates. Price, $12 net. Philadelphia: F. A. Davis Company, 1930.

Annual Report of the Board of Regents of the Smithsonian Institution. Showing the Operations, Expenditures and Condition of the Institution for the Year Ending June 30, 1929. Cloth. Pp. 622, illustrated. Price, $1.75. Washington: United States Government Printing Office, 1930.

The Public's Investment in Hospitals. By C. Rufus Rorem. Cloth. Pp. 251. Price, $2.50. Chicago: The University of Chicago Press, 1930.

Operative Gynecology. By Harry Sturgeon Crossen, M. D., F. A. C. S., Professor of Clinical Gynecology, Washington University School of Medicine, and Gynecologist in Chief to the Barnes Hospital and the Washington University Dispensary, and Robert James Crossen, M. D., Instructor in Clinical Gynecology and Obstetrics, Washington University School of Medicine, St. Louis. Fourth edition. Cloth. Pp. 1078, with twelve hundred forty-six illustrations and two color plates. Price, $15. St. Louis: The C. V. Mosby Company, 1930.

Physical Diagnosis. By Warren P. Elmer, B. S., M. D., Associate Professor of Clinical Medicine, Washington University, School of Medicine; Assistant Physician to Barnes Hospital; St. Louis, and W. D. Rose, M. D., Late Associate Professor of Medicine in the University of Arkansas, Little Rock, Arkansas. Cloth. Pp. 903, with three hundred thirty-seven illustrations. Price, $10. St. Louis: The C. V. Mosby Company, 1930.

Medical Jurisprudence. A Statement of the Law of Forensic Medicine. By Elmer D. Brothers, B. S., LL. B., Member of the Chicago Bar; Lecturer Emeritus on Jurisprudence in the Medical and Dental Departments of the University of Illinois. Third Edition. Cloth. Pp. 309. Price, $3.50. St. Louis: The C. V. Mosby Company, 1930.

A Manual of Normal Physical Signs. By Wyndham B. Blanton, B. A., M. A., M. D., Richmond, Virginia, Assistant Professor in Medicine, Medical College of Virginia. Second Edition. Cloth. Pp. 246, illustrated. Price, $3.00. St. Louis: The C. V. Mosby Company, 1930.

Protozoan Parasitism of the Alimentary Tract. Pathology, Diagnosis and Treatment. By Kenneth M. Lynch, M. D., Professor of Pathology, Medical College of the State of South Carolina, Charleston, South Carolina. Cloth. Pp. 258, illustrated. Price, $3.75. New York: The Macmillan Company, 1930.

Medical Biometry and Statistics. By Raymond Pearl, Professor of Biology in the School of Hygiene and Public Health, and in the Medical School, The Johns Hopkins University. Second Edition. Revised and enlarged. Cloth. Pp. 459. Price, $5.50. Philadelphia and London: W. B. Saunders Company, 1930.

A Primer for Diabetic Patients. By Russell M. Wilder, M. D., Professor and Chairman of the Department of Medicine, University of Chicago Clinics, formerly head of the Section on Nutrition, Division of Medicine, Mayo Clinic. Fourth Edition, revised. Cloth. Pp. 138. Price, $1.50. Philadelphia and London: W. B. Saunders Company, 1930.

Chronic Arthritis and Rheumatoid Affections. With Recovery Record. By Bernard Langdon Wyatt, M. D., F. A. C. P., Director, The Wyatt Clinic, Tucson, Arizona, with the collaboration of Louis I. Dublin, Ph. D., Statistician, the Metropolitan Life Insurance Company, New York, and foreword by Dr. J. Van Breemen, Honorary Secretary and Director of Advisory Bureau. The international League Against Rheumatism, Amsterdam, Holland, Fabric. Pp. 165. Price, $2.50 net. New York: William Wood and Company, 1930.

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Microbiology and Elementary Pathology. For the Use of Nurses. By Charles G. Sinclair, B. S., M. D., Major, Medical Corps, U. S. Army. Instructor in Bacteriology, Army Medical School, Washington, D. C. Cloth. Pp. 362, with 102 illustrations, some in colors. Price, $2.50 net. Philadelphia: F. A. Davis Company, 1931.

Methods and Problems of Medical Education. Eighteenth Series. Paper. Pp. 329. Illustrated. New York: The Rockefeller Foundation, 1930.

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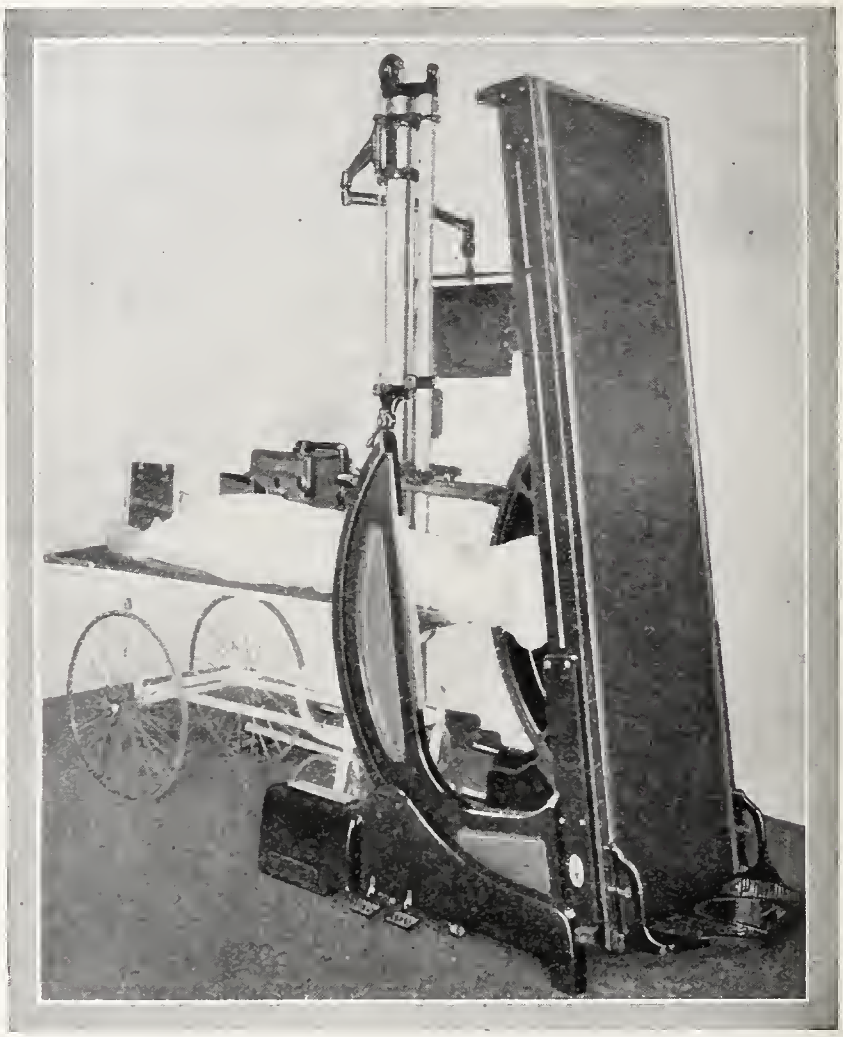

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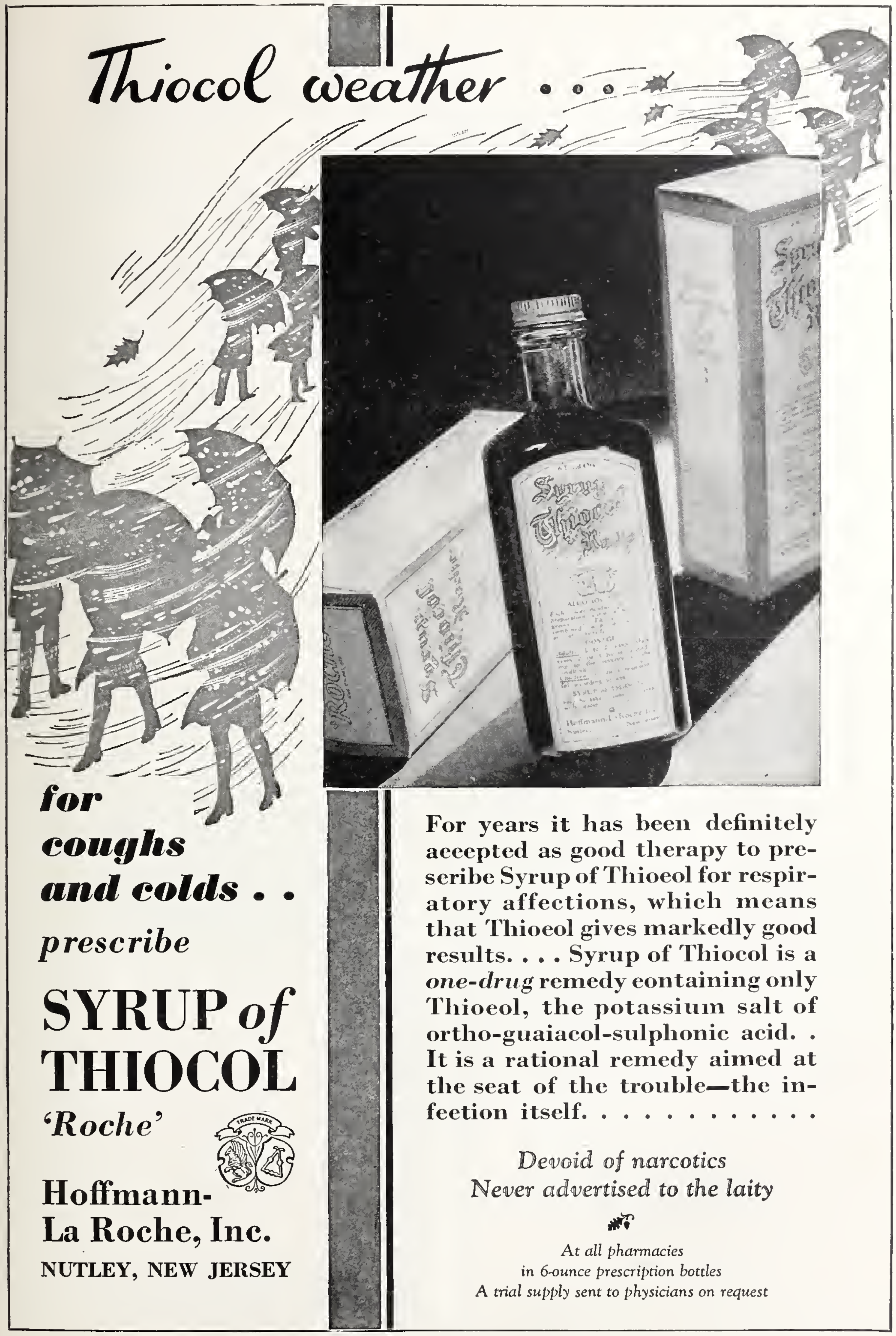

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Gonococcal Infection in the Male. By Abraham L. Wolbarst. Second edition. Pp. 297. Illustrated. St. Louis: The C. V. Mosby Company, 1930. $5.50.

This second edition has incorporated within it the newer methods and concepts of attacking gonorrhea which have proved of value since 1927.

The work is an up-to-date practical book which should be of great value to the general practitioner. It is not too long, and gives in short, terse sentences the methods of treating gonorrhea and all its complications.

The illustrations are clear and self-explanatory.

H. A. R. K.

Dietetics and Nutrition. By Maude A. Perry. Pp. 332. St. Louis: The C. V. Mosby Company, 1930. Price $2.50.

This book is a comprehensive résumé of the subject of dietetics. The book contains a considerable amount of practical information. When it delves into scientific depths it is less dependable, as some statements are at least inaccurate. Perhaps the book is better adapted to the requirements of nurses than of physicians.

Following the plan recently introduced by other authors, selected dietaries for special disorders are presented. In a general way these are good diet lists. The book endeavors to apply late discoveries in the field of nutrition to practical uses and succeeds to a certain degree.

It may be recommended to nurses and dietitians.

S. B.

A Textbook of Materia Medica for Nurses, Including Therapeutics and Toxicology. By George H. Paul. Sixth edition. Pp. 356. Philadelphia and London: W. B. Saunders Company, 1930. Price $1.75.

While this materia medica for nurses is well organized, it is surprisingly out of touch with current developments in pharmacology and therapeutics. The author unfortunately uses a number of trade names for medicinal agents instead of official names as given in the Pharmacopoeia and in New and Nonofficial Remedies. A great number of valuable and commonly used preparations of local popularity are discussed in considerable detail. Part V, on "Practical Therapeutics" (in which there is also, pe-

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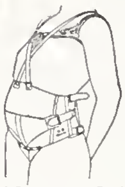

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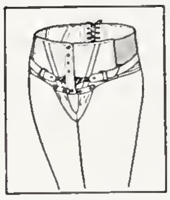

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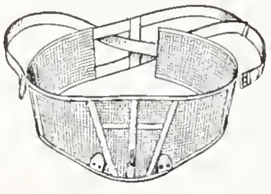

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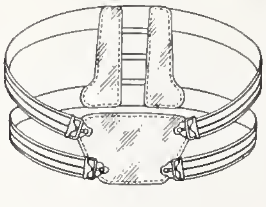

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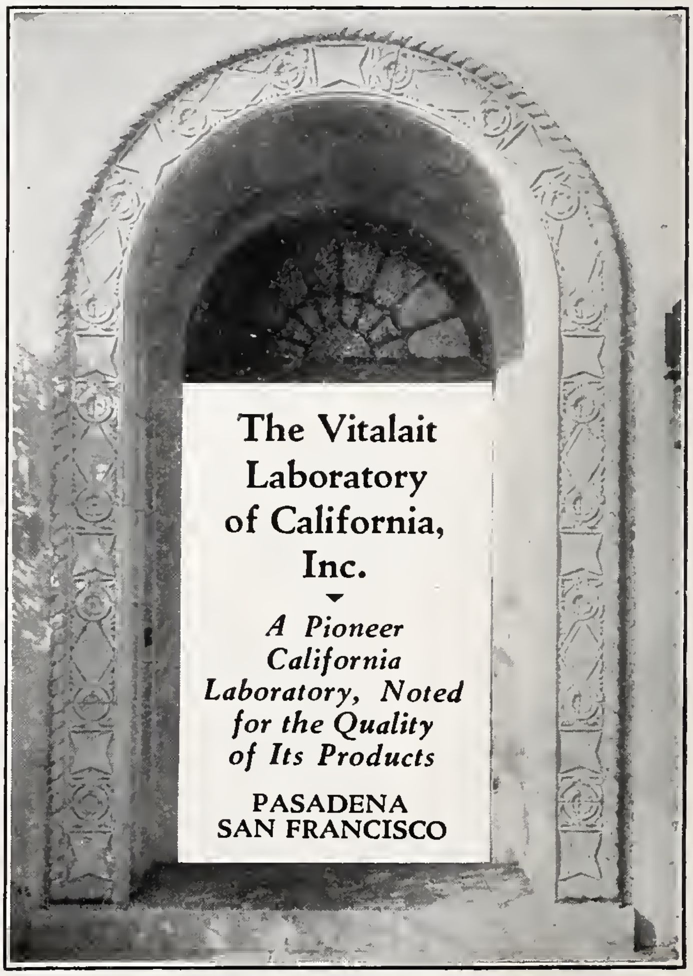
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culiarly enough, included discussions of pine oil disinfectant, swimming pool disinfection, and insect repellents), contains much useful advice for nurses. The remarks on "Rest Treatment" are especially good. The author unfortunately uses the antiquated apothecary's system throughout, although tables of weights and measures and dosages in the appendices give the metric system. The appendices also include statutes and regulations regarding registration of nurses, narcotic drugs, and intoxicating liquors. There is a good index.

C. D. L.

Studies in Ethics for Nurses. By Charlotte A. Aikens. Third edition. Pp. 339. Philadelphia and London: W. B. Saunders Company. 1930.

This textbook is now in the third edition. The author has added an introductory chapter in which is given a quite brief description of the development of nursing following upon which the young student is instructed in the so-called ethical aspects of nursing as she progresses through the various phases of her training up to her senior year and which comprises Section I. Section II has to do with the senior and head nurse and ends with what this writer considers the most carefully written chapter of the book and the one in which the author has kept more nearly to her text.

Section III deals with the field of nursing after graduation and is given over largely to problems, real and fictitious, encountered by the private nurse. The author presents as questions some most difficult situations, but does not state how they may be handled or avoided.

The title of the text is misleading and confusing. The content throughout is interspersed with nursing technic, economics, educational questions and administration methods. It is small wonder that the young nurse is so frequently puzzled in distinguishing between what is meant by ethics and what by technic and courtesy, and errs so often in matters of purely ethical character. As a guide to a young teacher this book might serve a purpose in instructing her students as to how they should conduct themselves in the hospital in relation to the various people with whom they come in daily contact. In this respect the author cites some difficult situations in which doctors are concerned and where the matter of loyalty to physician or patient is on trial, this in question form and without answer. These and others, equally important, points are touched upon and should be illuminated for the student.

Two chapters are given under a dubious heading, "Old-Fashioned Virtues," which provokes the question as to whether virtue is ever old-fashioned. Do we consider truthfulness, honesty, obedience to rule as we would an old garment, to be discarded? Young people resent anything "old-fashioned"; they are, however, always ready to accept new-fashioned, and these are some ideas which the author is endeavoring to get over and could be presented in a way that would appeal to students. It is doubtful if nursing ethics as such can be taught from a textbook and in a class room; the best teachers have not done it in that way. It should rather be caught than taught; it should be in the very atmosphere that surrounds the student in her daily life in the hospital, and she should see it exemplified in her teachers, the head nurses, the doctors. She should get it from her readings, at church, in her amusements, until thus ethics becomes a part of her. In laying down a text on conduct there is great danger of making a student stereotyped and dependent on the written rule. Give her good fundamental principles upon which she can build her ethics and we will then have a nurse who can do what is right under all circumstances and in difficult situations.

A. C. J.

Physiology and Biochemistry in Modern Medicine. By J. J. R. MacLeod. Sixth edition. Pp. 1074. The C. V. Mosby Company, 1930. Price $11.

The first edition of this standard text appeared in 1918 and totaled 903 pages. Progress in the field is indicated by the expansion of the volume, at present, to 1074 pages, with great space saving through the use of many paragraphs of fine print. As Dr. MacLeod states, it is becoming increasingly difficult to combine within the covers of one volume even a general survey of the principles of physiology as they apply to medicine. The realization by clinicians of Claude Bernard's conception of physiology as the basis of modern medicine is stimulating such rapid advance in the science that it is becoming more and more difficult to compress the details of this advance into general statements or into a small volume. Professor MacLeod and his collaborators, however, have succeeded admirably.

The outstanding improvement of the fifth and sixth editions of this book over previous editions has been the inclusion of Part IV, "The Special Senses," by J. M. D. Olmsted, professor of physiology at the University of California Medical School. In 61 pages Professor Olmsted has succeeded in presenting a clear and concise account of the physiology of the eye as an optical instrument, the physiology of the retina, a discussion of eye movements, a consideration of the ear and hearing, and a short chapter on the chemical senses.

The first part of the volume on the physiochemical basis of physiological processes, which is an excellent general discussion, has not been very greatly altered.

(Continued on Page 17)

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BOOK REVIEWS

(Continued from Page 15)

It might be wise to extend this section considerably to include more of the recent important studies in this field. Part II, on "Blood and Lymph," while up to date, is rather briefly presented. Part III, "The Neuromuscular System," including the autonomic nervous system and postural coördination, is quite detailed and affords an excellent survey of present ideas in this phase of physiology. Part V, on the "Circulation of the Blood," while a brilliant exposition, including important clinical application of various physiological methods with special reference to electrocardiography, and a good discussion of shock, is not as up to date as it might be. No reference is made to Grollman's very significant study on cardiac output. Part VI, on "Respiration," Part VII, on "Digestion," and Part VIII, on "The Excretion of Urine," are authoritative and include all important recent studies. The section on "Metabolism" is especially important and includes an account of the biochemical processes involved. There is also an excellent section on the control of body temperature and fever and a chapter on the physiological principles of ventilation. Part X, the concluding portion of the volume, is concerned with the endocrine organs, and has been well prepared, with a good survey of Harrington's synthesis of thyroxine, and of Kamm's work on the posterior pituitary principles.

The volume is well documented, but with the increase in size it would seem that the references might be more useful were they to be placed as footnotes at the bottom of pages, where they appropriately belong, rather than to be collected at the end of long "parts." Although a large number of references are given, there is much material in the book which is not properly documented, as, for example, in the important discussion of the reversibility of enzyme action in which no reference is made to Loevenhart's pioneer studies, although all of his ideas were presented. In general, MacLeod's physiology is one of the best texts in English on the subject, especially for medical students and for the clinician who desires to base his clinical work on its rational and proper foundations. It is too bad the book is so expensive. It would seem that the publishers might use a lighter grade of paper and perhaps put colored illustrations on both sides of insert plates. Every effort should be made, if possible, to reduce the price of such a valuable text as this so it might have a wider distribution.

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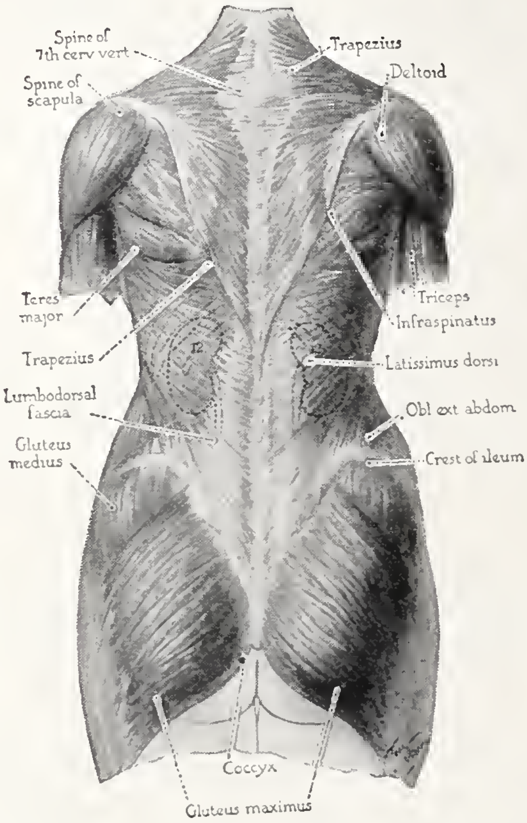

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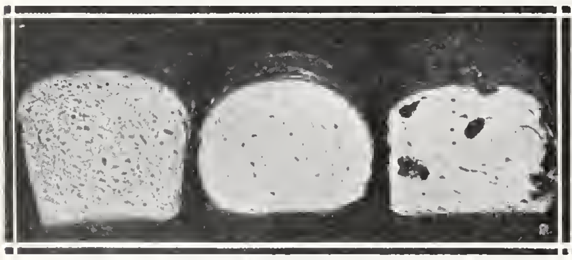

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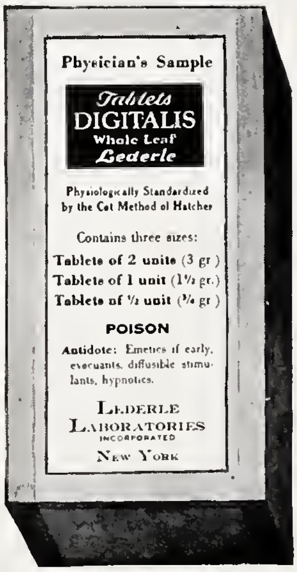
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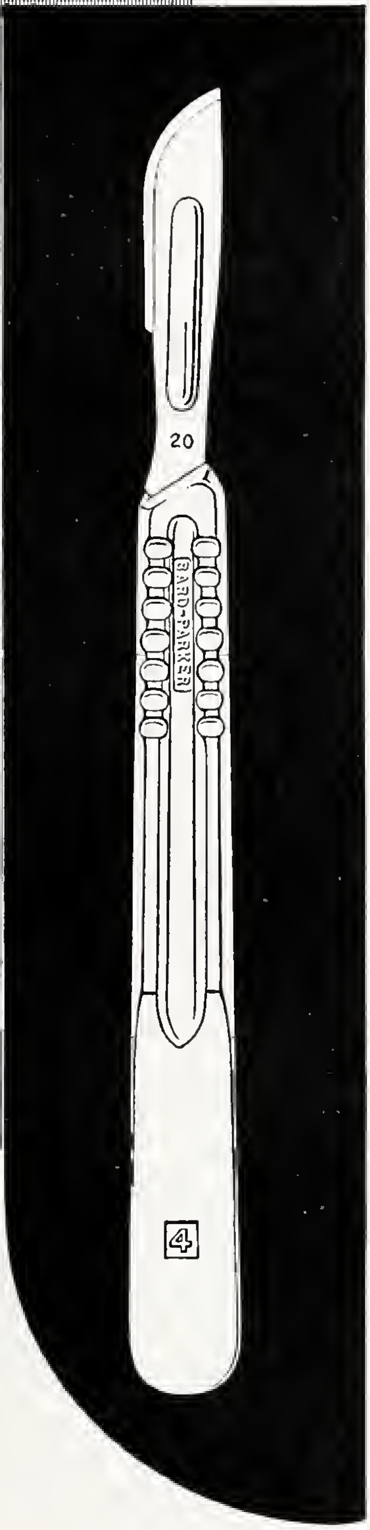

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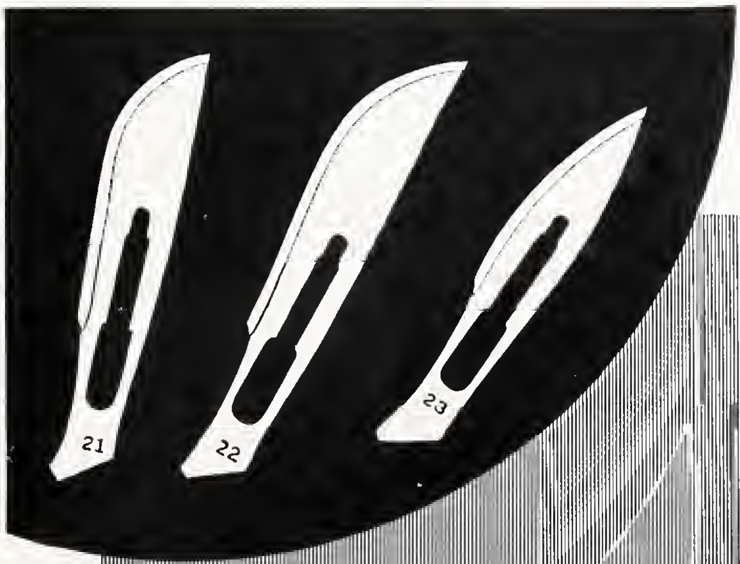

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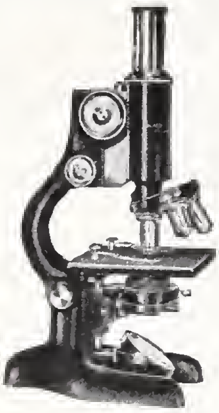

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(Continued from Page 20)

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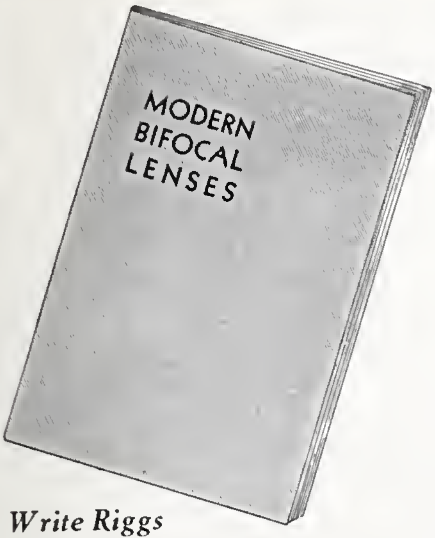

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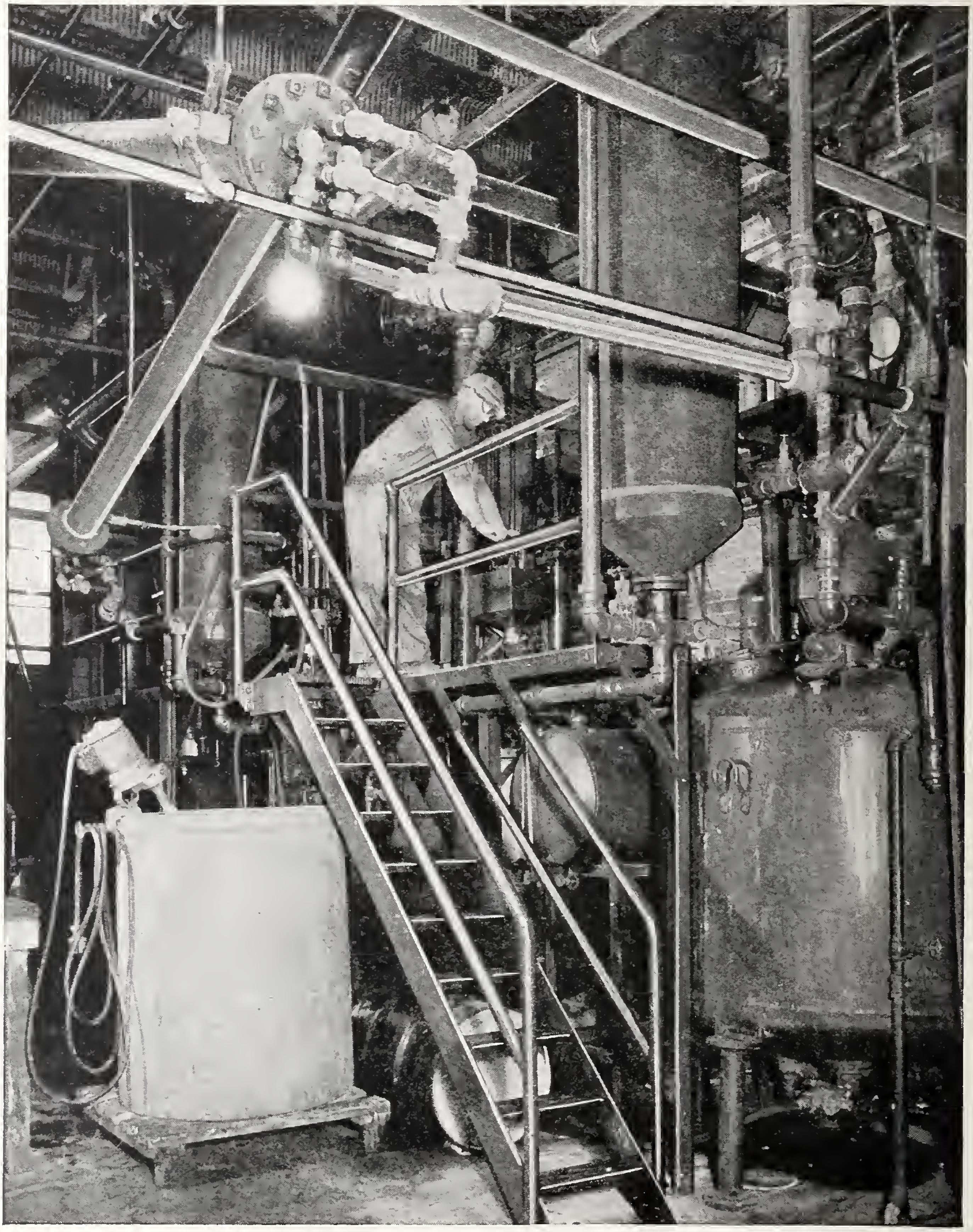

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CALIFORNIA AND WESTERN MEDICINE

VOLUME XXXIV JANUARY, 1931 No. 1

FECAL VACCINES*

THEIR USE IN CHRONIC ARTHRITIS AND CERTAIN SKIN DISEASES

REPORT OF CASES

By WILLIAM H. STRIETMANN, M. D.
Oakland

DISCUSSION *by F. M. Pottenger, M. D., Monrovia; William J. Kerr, M. D., San Francisco; Fred H. Kruse, M. D., San Francisco.*

As this paper purports only to recite the experiences of the writer with fecal vaccines during the past four and one-half years, reference to the results of others will be practically entirely omitted. The method employed is that of William B. Wherry of Cincinnati, Ohio, with slight modifications, and is described by Dr. Gertrude Moore, under whose supervision the vaccines have been made, as follows:

TECHNIC OF THE MANUFACTURE

The patient is instructed to collect small representative specimens from well-mixed stool and submit such samples to the laboratory while as fresh as possible. Samples to be sent on four successive days.

The entire sample is immediately emulsified in physiological salt solution, using about 250 cubic centimeters of solution to each dram of specimen. The mixture is well shaken after which the solid particles are removed by centrifugalization for a short period at low speed. The turbid supernatant fluid is a bacterial suspension of fairly uniform distribution, and from it cultures are made as follows:

Three enriched glucose agar plates are streaked from each specimen. All are incubated for forty-eight hours at 37 degrees Centigrade, one aërobically, one anaërobically, and one under partial oxygen tension. Anaërobiosis is obtained by the pyrogallic acid plus alkali method. Partial oxygen tension is obtained by growth in conjunction with heavily seeded plants of *B. subtilis.* At the end of forty-eight hours different type colonies are picked and planted in glucose broth 30 to 40 cubic centimeters in large test tubes. These transplants are incubated for forty-eight hours. Those picked from the aërobic plates are incubated aërobically, those from the anaërobic plates, anaërobically, and those from the partial tension plates under partial oxygen tension. These tubes are stoppered with gauze-covered corks in order that they may be centrifuged. This centrifuging, which is done after the forty-eight-hour incubation period, is accomplished by placing the tubes directly in the large centrifuge cups. The larger size centrifuge cups will accommodate eight to ten tubes. With a large four-cup centrifuge it is possible to centrifuge from thirty to forty tubes at one time. Three thousand revolutions per minute for ten to fifteen minutes is necessary to pack the bacterial sediment well.

The supernatant broth is poured off and a portion of the sediment is transferred to a smaller test tube to be used for the making of antigens for skin test. They are identified by number. At the same time glucose broth is inoculated. These transplants are incubated for twenty-four hours and then filed to be used in identifying the organism if the patient reacts to it.

That portion of the sediment which has been set aside for the skin antigens is now diluted with physiological salt solution sufficient to make a suspension of about 100,000,000 organisms per cubic centimeter. This tube is plugged with cotton and set aside for the moment while slides are made from the original sediment to be Gram-stained to determine proper method to be used in detoxifying. All the tubes are worked up in this fashion and the Gram-staining is done at one time. The Gram-positive organisms are detoxified with H_2O_2 (undiluted) and the Gram-negatives with 10 per cent formalin (10 cubic centimeters of formalin plus 90 cubic centimeters of water). About five cubic centimeters of solution is added to each tube and they are incubated for forty-eight to seventy-two hours. The antigen suspensions for skin test are heated in a water bath at 70 degrees Centigrade for one hour, incubated overnight and tested for sterility. Sterility tests are made under aërobic, anaërobic, and partial tension conditions, and incubation is carried on for three days. At the end of forty-eight hours the detoxifying suspensions are centrifugalized at high speed. The supernatant fluid is discarded. This bacterial sediment is washed three times in an abundance of physiological salt solution. This step should be done with great care. After washing, the bacteria are suspended in a small amount of physiological salt solution, made with 0.5 per cent phenol, and incubated for twenty-four hours. They are then placed on file awaiting the report of the skin tests.

When the antigens for skin test, made as above described, have been found to be sterile they are ampouled for use.

On receipt of report of skin test the laboratory proceeds at once to identify all the organisms that have given susceptibility or sensitivity reactions and to make a vaccine from these organisms.

All of the antigens, identification cultures, and detoxified bacterial suspension that have given negative skin tests are at this point discarded. A uniform suspension in phenolized salt solution is then made of all the organisms that are to enter into the making of the vaccine, and the vaccine is made up from these in direct proportion to the skin reactions. A final suspension containing about 200,000,000 per cubic centimeter is made and ampouled for use after sterility tests as above outlined.

TESTS AND REACTIONS

Skin Testing.—It should be borne in mind that the antigens have not been identified and hence duplicates may be found among them which would result in a large dose of vaccine and perhaps produce rather severe constitutional reactions. Nor are the antigens detoxified. Hence, in a not robust patient not more than two or three antigens should be used for testing at one time, though we frequently use six in a rugged type. About one minim is injected intracutaneously. Injections should be made about four centimeters apart to avoid confusion from confluent reactions.

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* Read before the General Medicine Section of the California Medical Association at the fifty-ninth annual session at Del Monte, April 28 to May 1, 1930.

Immediate (Sensitivity) Reactions.—A reaction in the nature of an erythematous wheal may occur in from ten to thirty minutes and may disappear in from one to five hours. This, Wherry looks upon as indicative of the patient being sensitive to this particular organism though he may not actually be infected with it. Personally, I am inclined to look upon it as a manifestation of a bacterial allergy, which may be of great importance in certain diseases.

Late (Susceptibility) Reactions.—Occurring in from ten to twenty-four hours. Similar, but giving a decidedly more inflammatory reaction with tenseness and a deeper, more cyanotic appearance, and persisting several days. This indicates a definite susceptibility to infection with the organism in question.

Reactions are designated as of one, two and three plus degrees, being respectively of one to two, two to three, and three to four or more centimeters in extent.

DOSAGE

Dosage and Plan of Therapy.—Vaccines are made up about 200,000,000 per cubic centimeter. Of this, one minim is given hypodermically (sometimes intradermally in skin diseases) daily. If no constitutional reaction occurs after five or six doses, two minims are employed. In skin diseases, when the condition is looked upon as bacterial allergy, the aim is to desensitize rather than immunize, and the dose is kept low—not to exceed four minims. In arthritis, however, up to ten minims are given in gradually increasing doses. It has been interesting to note on retesting after six weeks that some of the original reactors drop out. Also, we have latterly prepared a new series of antigens after six weeks and note some new organisms present, whereas others may disappear from the group of reactors. It is unfortunate that we have not been able to identify all organisms before testing, but such plan was eliminated as being too expensive. However, we are planning to do so in the future. In most instances the treatment has been continued ninety days before discarding it, in the absence of beneficial results. When apparently helpful it has been continued for as long as six months.

ANALYSIS OF ARTHRITIS CASES

In the chronic arthritis cases, we met with indifferent success but, nevertheless, with encouragement. Unfortunately, we chose them rather indiscriminately and, interestingly enough, our greatest success was with patients of the chronic infectious type in whom all obvious foci of infection had been previously removed. In all, thirty-nine cases were treated, twenty-three of which fell into the group of chronic infectious arthritis according to Cecil's classification, as demonstrated by fusiform swelling of finger joints, multiplicity of joints involved, narrowing of joint spaces and absence of the hypertrophic lipping, etc., of the degenerative type.

Of the remainder, there were eight cases of hypertrophic spondylitis, six of climacteric arthritis, and two senile arthritis cases. All cases were in females except five hypertrophic spondylitis cases.

Of the thirty-nine cases twenty-two had had tonsils removed; twelve were edentulous; ten had either had antrums opened for permanent drainage or had one or more washings for diagnosis; two had otitis and one had had a mastoid operation. All were negative radiographically for any remaining sinus involvement. Six had appendectomies and five cholecystectomies. There was no venereal history in any, and the five males showed no prostatic infection. Cases showing intestinal parasites were not included. All but one had negative Wassermanns.

Twenty-four gave a history of constipation. In eighteen a gastro-intestinal series was done—one showed a diverticulosis of the colon; twelve a spastic colon; two a questionable appendix from the roentgenologic point of view. Twelve cholecystographies were done—eight were negative, two showed failure to empty properly, and two gave no gall-bladder shadow at all. None of the patients went to surgery.

Of twenty-three patients with chronic infectious history, five were markedly benefited by treatment as manifested by relief of pain and a considerable reduction in the peri-articular swelling to the extent of about 25 per cent of the original remaining in two instances and perhaps 50 per cent in three others. The one patient with infectious spondylitis was entirely freed from pain, the spine was normally flexible afterward and remained so for two years following, when she died of a cerebral hemorrhage. She had had her sinuses drained, teeth out, and tonsils removed some years prior to the onset of her spondylitis. She was one of the patients in whom the gall-bladder failed to show on cholecystography.

Pain in three patients with hypertrophic spondylitis was lessened, but as all were given physiotherapy to correct postural defects, no conclusion can be drawn, many such cases becoming symptom free with correction of posture.

The most interesting feature is that the best results were obtained in patients with chronic infectious arthritis in whom all obvious foci had been removed, for of the five cases showing the most definite results, all had had tonsillectomies, four were edentulous, and the fifth had had all dead teeth removed before coming under treatment: Two had had cholecystectomies and two others appendectomies. All had been chronically constipated for years. This at least suggests that the colon must be included as offering a primary focus of infection in some instances. Except for the irregular use of aspirin or atophan to control pain at times, no treatment other than the vaccine was used in these cases, the constipation being controlled by cathartics previously used. All had ninety or more doses of vaccine.

REPORT OF SKIN CASES

Case 1.—Mrs. R. C. P. Married. Forty-three years old. Surgical: Repair, 1918; intestinal obstruction, 1920, with phlebitis of the right leg following cesarian; 1920, eclampsia. Diphtheria in childhood. Pneumonia in early adult life.

Complaints.—Pain and swelling in right knee and ankle, shoulder, left elbow, and fingers of both hands. Flatulent indigestion, constipation and dyspnea at times relieved by eructation.

Examination.—Marked acne rosacea of twelve years' standing, treated by various dermatologists without success. Becomes worse with exacerbations of intestinal disturbances, constipation, flatulency, etc.

Some mucopurulent discharge from the left antrum. Both antra were washed out nine months and two months ago with negative results. X-rays were negative. Tonsils fibrotic; passed upon as not diseased by specialist. Double denture.

There is a soft basal murmur, not transmitted. Blood pressure, 146/90. Some tenderness in gall-bladder region. Colon is flatulent.

Fusiform swellings of mid-phalangeal joints—first, second, third fingers of the right hand and the second and third of the left hand. The right knee and ankle are puffy and painful, but the entire leg is somewhat edematous due to phlebitis. Right shoulder and left elbow are painful on movement, but show no swelling. The pelvis is negative. The urine is negative. Red cells, 4,610,000; hemoglobin, 81 per cent; white cells, 5950; polynuclears, 77.50; small lymphocytes, 22.25; large lymphocytes, 0.25. Wassermann negative. Blood urea nitrogen, 12.6 milligrams per 100 cubic centimeters of blood. Blood uric acid, 3.2 milligrams per 100 cubic centimeters of blood.

X-rays were negative for gall-bladder disease. Colon spastic, and on manipulation suggested adhesion in region of cecum and mid-transverse colon. Spine shows hypertrophic changes with spur formation.

Treatment.—The patient was treated for several months with bile salts, diet, acidophilus milk, etc., with no result, and went East, returning nine months later, at which time a vaccine was prepared from the feces. She was given daily doses of one minim of a 400,000,000 per cubic centimeter vaccine, and after thirty doses she not only felt a definite improvement in joint condition as far as pain was concerned, but noticed a marked fading of the eruption. The treatment was continued for eighty-four doses, at which time there was only a slight flushing at the site of the former eruption. Swelling of joints had materially decreased and pain was absent.

She reported again twenty months afterward. The eruption had entirely disappeared and she had had no joint pain since. The swelling of the phlebitis persists.

Out of ten antigens, the patient reacted to three—an aërobic colon bacillus, an anaërobic colon bacillus, and a *Staphylococcus aureus.*

The foregoing case has been reported rather fully as it was only accidentally that the skin condition came under our observation, and as a result of its apparent cure the next case to be reported was referred by this patient.

* * *

Case 2.—Mr. E. B. H. Forty-seven years old. Previous history negative. Patient began to have eczema in 1908, nineteen years prior to our first consultation. It then involved the inner surface of the left foot below the malleolus and, in spite of treatment by ointments of various sorts and x-ray, it extended as high as the calf. The process remained localized to this area for twelve years and the patient did not continue treatment, as he now recalls, more than a year. The surface of the excoriated area constantly exuded serum during this time and it was necessary to keep it bandaged.

In 1920 he applied to another dermatologist and was treated by "some kind of light treatments," ointments and again x-ray, in spite of which the disease began soon to involve the other leg and appeared in both axillae and on the back in the region of the right shoulder blade.

He then, in 1925, saw another physician who skin-tested him for food sensitization, and for two years he followed the prescribed diet, but with no result.

Examination of this patient revealed nothing abnormal except that he was overweight and had the skin lesions referred to. The serous oozing was so profuse that he had to change bandages and socks two and sometimes three times a day.

He was put on a reducing diet and given vaccine from feces in one minim doses daily for about two months, at which time the lesions on the back and in both axillae had disappeared and on both legs were dry but still scaling. No local treatment was used.

We then lost sight of the patient for seven months, when he returned with a recurrence of seven separate spots on the left arm and two on the right. He had lost nineteen pounds in weight, had dropped from 202 to 183. The legs were still somewhat scaly, but had never oozed serum since the vaccine was employed.

The old vaccine had been kept and was used again for sixty doses with a progressive improvement, and in two months all the lesions had disappeared with the exception of a small area which continued to show a flaky scaling on the left ankle. It is now twenty-three months since he was treated and there is no recurrence. The organisms to which this patient was sensitive were ***B. coli communis*** (aërobic), ***B. coli communior, B. proteus,*** a diphtheroid bacillus and an anaërobic ***B. coli.***

* * *

Case 3.—Mr. F. M., thirty-two years old. Except for a poliomyelitis four years ago, there is nothing remarkable in the previous history. The patient complains of an itching skin, which has caused him to scratch vigorously and as a result multiple furuncles have developed over the entire back and shoulders. This dates back ten years. He has seen two dermatologists, who are unable to identify the cause. Has been given lotions, etc., with transient relief only. The Wassermann is negative, the blood count normal, and the sugar-tolerance test normal. In spite of the latter, he finds that starch restriction is helpful, but loses weight too rapidly on this regimen to make it feasible.

The physical examination is negative except for some residue from the poliomyelitis, and the skin condition antedated this illness by six years at least. His blood uric acid varied from 3.4 to 2.5 milligrams per 100 cubic centimeters of blood without dietary restrictions.

His back presented a mass of fresh scratches with multiple small furuncles in various stages. There was marked dermatographia, and the wheal produced by irritation became very itchy.

In this instance a vaccine was made from the feces in the hope of desensitizing the patient and thus help to overcome the itching, and at the same time another was taken from the furuncles (a ***Staphylococcus aureus***) for immunization purposes. The former was used in one minim doses daily and the latter in increasing, immunizing doses at four-day intervals.

The fecal vaccine was of ***B. coli*** (aërobic) and a diphtheroid bacillus.

The patient has thus far had one hundred and twenty doses of the fecal vaccine and thirty doses of the ***Staphylococcus aureus*** vaccine, the latter being given intradermally. He states that the itching has disappeared to a marked degree and that the furunculosis is 75 per cent cleared. At present he is having no treatment, but will have another series of antigens prepared for retesting before long.

Case 4.—Mr. R. L. S. Fifty-nine years old. In excellent general health, with normal laboratory findings. Psoriasis of ten years' standing. He has been irregularly under treatment by a dermatologist, who used x-ray with success on certain lesions, but because of the danger of losing his hair the patient would not consider x-ray therapy to lesions in the scalp. There were two large patches, each the size of a silver dollar, above each ear and a slightly smaller area of involvement in the occipital region.

A fecal vaccine was prepared for him and out of nine antigens there were four reactors, two of which showed marked early reactions, indicating sensitiveness to the organism in question. These were an aërobic colon bacillus and a streptococcus from which the vaccine was made. Daily injections of one minim were given for one week, then two minims, three minims and four minims for a week each. The local reactions were slight and the dose was gradually put up to eight minims. He has had about ninety vaccine treatments in all.

In the beginning the itching and scaling were very marked and the patient found himself constantly scratching his head, and his shoulders were covered with dry scales. In a month's time there was practically no itching and the areas were reduced by more than 50 per cent. Now, after three months, it is possible to find only four patches in the scalp, none larger than an ordinary pimple, and there is no scaling or itching. The patient states that he cannot recall at any time in the past seven years that his scalp has been in as good condition as at present. We are discontinuing treatment to note the effect in the course of another month or two.

COMMENT

In addition to the dermatological cases reported, there was an intractable recurring pityriasis which is now free for three years. A patient with chronically recurring angioneuredema of long standing has now gone over a much longer time than ever before without recurrence, but still she has had only four months of freedom and we claim nothing as yet. Another case is that of an exfoliative dermatitis which has recurred for the fourth time, and is now under treatment. All skin cases had either been tested for food allergies and diet found ineffective, or food allergies had been entirely ignored.

How may we explain the results obtained in these dermatological conditions? Eczema has long been considered an allergic disease. Psoriasis has never been satisfactorily catalogued as to etiology, but is not unlikely to be allergic in type. Pityriasis is probably allergic. So is angioneuredema. But they are not necessarily food allergies. Our results speak rather more forcibly for bacterial allergies or possibly the production of a protein-split product, the result of bacterial overdigestion of certain proteins in the bowel. In Case 3 reported, the vaccine was made from the organisms obtained from the feces and to which the patient was sensitive and, in addition, from the *Staphylococcus aureus* from the furuncles. In other words, the itching seems to have been controlled by the desensitization process and the furunculosis by an immunization process. This suggests that in the future it may be well to pay considerable attention to the two types of reaction in skin testing, my present impression being that the skin diseases of doubtful etiology may receive more benefit from those organisms which give an immediate or sensitivity reaction.

230 Grand Avenue.

DISCUSSION

F. M. Pottenger, M.D. (Monrovia).—Doctor Strietmann's paper is a very timely one in that it suggests a method of therapeutic attack for a certain group of diseases which have always provided difficult problems for the clinician. Since the idea of focal infection was first introduced into medicine, it has been applied to various conditions with varied success; in fact, the many failures have probably overbalanced the successes. Focal infection is one of the greatest conceptions that have entered modern medicine. The difficulty is to establish it on a sound basis. A certain type of arthritis is now recognized as being due to metastatic infection. This fact being established, it becomes necessary to find the source, as well as the nature, of the original infection.

There has been a general attempt to treat arthritis by removal of the foci of infection. This would be comparatively simple if the infection were always in some organ of comparatively little value to the individual, and provided it could be removed with ease; but the treatment of focal infection has resolved itself into removing tonsils, teeth, colons, appendices, operating on sinuses, always with the uncertainty that, after all, the correct focus might not have been reached.

The dermatological cases reported by Doctor Strietmann are also of great interest. Certain types of asthma, hay fever, and urticaria will fall in this same line. While many students of the subject have always felt that the removal of organs, unless they be definitely infected, was not scientific, yet they have considered their sacrifice necessary. If we bear in mind that the cure of all infections is brought about by the establishment of immunity, Doctor Strietmann's method gives a more rational approach in these metastatic conditions. Our only method of therapeutic approach to an infection produced by bacteria whose mode of action consists largely in cellular irritation is through vaccines. Our difficulty in this method of treatment is its uncertainty. There have been attempts to treat many types of infection by vaccines made from secretions and excretions, or focal contents, but often the vaccine did not include the pathogenic organisms. With Wherry's method, as followed by Doctor Strietmann, the greatest patience is used in making the vaccine. Cultures are made and tested on the individual, and no culture is used unless the individual proves to be sensitive to it. In this way a vaccine will often include certain organisms that probably are not responsible for the infection that is being treated; but no harm will result, for it may be safely said that if a person does react to a vaccine, with an allergic response, it means that he is at the time, or has been in the past, infected with that organism. So by utilizing those bacteria to which the individual is allergic, we bring about a more scientific approach to the therapy of the disease.

It is hoped that Doctor Strietmann's plan will be followed by other investigators. I have known certain cases of sinusitis to be relieved by vaccine made according to Wherry's plan. This appears to be an improved method of approaching what heretofore has been a very unsatisfactory field in medicine.

⁂

William J. Kerr, M. D. (University of California Hospital, San Francisco).—Doctor Strietmann's paper emphasizes the fact that much can be done for the patient with chronic arthritis after due attention is paid to the general condition of the patient and measures are taken to put him in a better position to fight his infection. We have passed through a long period of radical surgery for the eradication of the foci of infection and very often the patient has been neglected in dealing with the foci problem. I have long felt that in many instances at least the foci of infection appear as a result of the debility of the individual and that the foci themselves are not primarily the cause of the arthritis. For that reason I have directed a good deal of attention to measures which will build up the general health, removing, when necessary, definite foci of infection.

The various types of vaccine which have been used in the patient and such measures as will produce protein shock have all served a purpose. They give the patient at least a "new deal" and either by improving the general circulation by vasomotor relaxation or by promoting antibody reactions tend to bring about general improvement. Whether we agree with the authors that the local disturbance in the joint is brought about by an allergic state, or whether there is some other immunological principle involved, it does seem at times that specific vaccines have a definite value. It seems quite certain that there is some general metabolic disturbance, using the term in its broadest sense, which is back of this group of conditions. I do not think that we have yet determined the fundamental process which is involved, but we are nearer to the solution than we have ever been in the past.

⁂

Fred H. Kruse, M. D. (384 Post Street, San Francisco).—Doctor Strietmann's work has interested me chiefly in its relation to the therapy of chronic arthritis. The voluminous literature that has appeared and is appearing on the classification, etiology, and treatment of the arthritides is sufficient evidence of the difficulties we are encountering and of our failure in controlling this disease.

I still think that we must proceed rather radically in the elimination of focal infections in every part of the body; but when that is done there will yet remain epithelial tissues and lymph structures in the nasal sinuses, throat, lungs, genito-urinary system and gastro-intestinal tract that harbor and disseminate organisms that undoubtedly continue to invade the joints. Further surgical eradication is impossible, but the many specific immunological factors, disordered metabolic and internal glandular functions that determine and control our resistance to infections offer a fertile and intriguing field for speculation and attack. Doctor Strietmann has indicated the possibilities that may result in raising the specific resistance powers of the individual. Doctor Kerr has suggested the importance of studying the general constitutional needs. Of the latter, the glandular dystrophies and obesities; the influence of heredity; the diet in relation to the protein and vitamin needs of the individual and his ability to metabolize carbohydrates and eliminate glucose must all be taken into consideration. In association with the work of Doctor Strietmann in his use of specific vaccines from the intestinal tract, it is interesting to compare the report of H. Warren Crowe in the August issue of *The Journal of Laboratory and Clinical Medicine* in reference to his isolation of certain strains of streptococci and the so-called *"Micrococcus deformans"* from stools and other surface foci of the body, and the excellent results obtained in the use of vaccines containing these organisms.

It is evident from the immunological side of this problem, then, in the light of Strietmann's and Crowe's reports, that vaccines have more than the accredited protein shock value—a real specific value if the actual pathogenic organisms can be isolated. To secure the proper organisms is difficult and requires the procedures described by the authors.

The problem of the intestinal tract plagues us all. I have consistently felt that mere colonic irrigations, high or low, with or without acidophilus implantations by tube, could never do more than afford temporary improvement and that if the intestine actually causes arthritis, a more specific method of treatment must be evolved.

The viewpoint of Crowe that the offending organisms are harbored in the small intestine and must be secured from there further complicates the problem. Pemberton has described unusual conditions of the intestinal tract which are present in the course of chronic arthritis and often precede it. He notes this condition especially in the colon as seen by x-ray, consisting of elongation, widening, tortuosity, and inertia of that organ. Fletcher has claimed that the bowel may be returned to a normal condition by dietary control, including curtailment of the carbohydrate intake, adequate ingestion of protein, and a large vitamin content. Catharsis as so generally practiced frequently defeats its own aims and leaves only an irritated and inflamed mucous membrane, from which greater absorption takes place. By more gradual and natural measures with the proper diet, adequate elimination and improved bowel tonus can be attained with a minimum of toxic absorption.

⁂

Doctor Strietmann (Closing).—Whether one believes that focal infections are the direct cause of arthritis or that indirectly by disturbing the normal metabolism they lower resistance and are predisposing, at present our attitude should be in favor of the removal of any frank focus as the first step in the treatment of arthritis. One may still argue whether disease is the precursor of bacteria appearing in the body tissues or the reverse, but their unquestioned presence calls for removal where feasible.

There is not much doubt that chronic infections exhaust the thyroid and probably the suprarenals, and there is an apparently definite type of climacteric arthritis. One should, therefore, always bear in mind the glandular dystrophies and disordered states of metabolism and use all means to correct them.

I, too, question the value of colonic irrigations. In fact, it is not improbable that they may do harm by increasing absorption. The "enema rash" (and cathartic rash) are an evidence of this.

Another matter to be pointed out in relation to both the allergic skin diseases and the allergic conception of arthritis is the danger of depleting the patient by the drastic so-called "elimination diets." It is not reasonable to assume that an individual who has eaten certain foods all his life suddenly becomes sensitive to them. However, one may conceive that some protein split products may develop as the result of deficient digestion, or even bacterial overdigestion, to which the patient may be sensitive. Similarly, as a result of changed intestinal environment, new strains of bacteria may develop to which *per se* the body is unaccustomed and sensitive. In either of the two latter premises, fecal vaccines, developed according to the Wherry method, may prove a valuable aid.

RETROBULBAR NEURITIS AND MULTIPLE SCLEROSIS

SOME OBSERVATIONS WITH QUANTITATIVE CHARTS AND REPORT OF CASE

PART I

By Clifford B. Walker, M. D.
Los Angeles

Discussion *by Dohrmann K. Pischel, M. D., San Francisco; M. F. Weymann, Los Angeles.*

Doubtless many ophthalmologists have read and reread with sharply focused and perhaps startled attention the following lines in a recent masterly contribution by Professor Harvey Cushing[1]: "Somewhat to his embarrassment it is the ophthalmologist who must make the final decision between a possible intranasal or a possible intracranial primary cause of an existent optic atrophy." And still further, "What we must all strive for is to avoid futile operation either on the part of the neurosurgeon, or on the part of the rhinologist." Ophthalmologists may have been all attention at this point, but how many were prepared for this exquisite addition: "Unquestionably misdirected procedures would less often be carried out if the ophthalmologist took it on himself not only to make the decision, but to put it to the test by conducting his own intracranial and intranasal explorations rather than turn them over to others."

What more stimulating comment could be more deftly presented to the ophthalmologist, and from what higher court? While the ophthalmologist may feel flattered by the latter part of the above paragraph, still there was "embarrassment" to begin with. Embarrassment is the right word. Large series of these cases must be slowly accumulated and carefully studied before relief from this embarrassment will come.

It is only occasionally that a conscientious, path-finding enthusiastic surgeon finds it necessary to turn to his followers—often more radically enthusiastic than their leader—and endeavor to curtail the train of operations that he has so laboriously started. Perhaps the splendid work of Leon White was as striking as any recent instance of this tendency for a surgical pendulum to overswing its equilibrium point. Indeed we may be even now reaching a state of overconservatism as the reaction against certain spheno-ethmoidal aërations becomes more pronounced.

PURPOSE OF THIS PAPER

The purpose of the observations in this paper is to emphasize again[3] what seems to be one of the most important steps in arriving at a better equilibrium in the retrobulbar neuritis group. I refer to the careful recording of a series of visual fields to establish the characteristics of progression by the consistent, perhaps daily, use of quantitative perimetry. To be sure, this is a time-consuming examination, but I doubt not that if it can be shown to be more informing than rapidly made fundus, roentgen ray, transillumination, or nasal examinations, then time will be found to do the work even after office hours or in the evening, since artificial illumination may be used quite satisfactorily. A brief outline of some of the anatomical data should add breadth to viewpoints of the neurological ophthalmologist.[4]

ANATOMICAL DATA

Embryologic Development:

1. The ethmoid capsule is first formed solid without cells by a deposition of cartilage in the epithelium and subjacent mesenchyme, probably derived from the septum.

2. At certain, somewhat variable, points in the mucosa:

(*a*) The cells begin to divide more rapidly and pouch inward, thus forming the ostia.

(*b*) The variable location of the ostia, which determines to a large extent the location and variable arrangement of the cells of the sinuses.

(*c*) The primitive cells are first formed outside of the cartilaginous capsule.

(*d*) The mucosa lining these cells has a marked ability to stimulate absorption of, and to evaginate into cartilage, bone and even dura, enabling the cells to grow or pneumatize into the capsule, etc., though as late as the third year they may be still extracapsular in the ethmoid region. Each sinus cell should have a nonvalvular opening into the nose.

3. Osseous centers appear in the cartilage in the fifth and sixth fetal months and tend to protect nervous and vascular tissue first, with a denser cortical deposit. (Ossification is not complete until adolescence.)

4. Osteoclasts aid the mucosa in the process of invasion or pneumatization of the sinuses. A weakness on the part of osteoblasts in protecting the foramina and other important structures, or an overactivity on the part of osteoclasts or mucosa, results in weak spots or dehiscences in the covering of important structures.[5]

The search for an explanation of certain cases of retrobulbar neuritis stimulated the investigation of the formation of occurrence of these dehiscences. Possibly their discovery in various and unexpectedly wide distribution led to an overemphasis of their importance in that explanation. At any rate it seems notable that in the majority of dehiscent cases found in the dissecting room no history of trouble of the sort to be expected is obtained. Then again, of the few cases of retrobulbar neuritis cases that have come to autopsy, dehiscences have not been actually found in sufficient proportion to lay as much to their door as might be convenient. Albeit the presence of a definite interstitial inflammation in the substance of the optic nerve has been sometimes found to exist, even though the optic disk appeared to be within the limits of normal in appearance, yet in others no pathological change is noted in the nerve even after a central scotoma has existed for as long as three months.[6]

However possible, it seems to state that few who have dehiscences have retrobulbar neuritis and again that dehiscences have rarely been found in retrobulbar neuritis cases. Yet it must be remembered that it is a difficult subject on which to gather statistics because even when it is possible to get an ordinary autopsy on a retrobulbar neuritis case, the search for dehiscences requires such a devastating, expert dissection that, for cosmetic reasons, it is not often permitted. While we are waiting for the slow accumulation of such evidence it is well to make note of the following possibilities as disclosed in the dissecting rooms:

Sphenoidal Dehiscences:

Such have been found to occur in sinus extensions to:

1. Hypophysis and brain stem—pons and basilar artery.
2. Dural side of cavernous sinus and contents (int. carotid).
3. Optic chiasm and hypophysis.
4. Vidian nerve and nasopharynx (eustachian tube); in pterygoid extension.
5. Gasserian ganglion, maxillary nerve at foramen rotundum and mandibular nerve at foramen ovale; in great wing extension.
6. Superior orbital or sphenoidal fissure extension may reach: second (optic n.), third (superior and inferior division of oculomotor n.), fourth (trochlear n.), fifth (frontal n.—lachrymal and nasal branches), sixth (abducens n.).

The optic canal has a bony wall of thickness normally varying from 0.2 to 2.0 millimeters and is commonly from 2.0 to 5.0 millimeters distant from the ostenm of the sphenoidal sinus. Dehiscences may vary from pin-point in size to a complete surrounding of the nerve so that it runs free in the sinus.

Ethmoidal Dehiscences:

May occur in extensions to:

1. Meckel's ganglion.
2. Orbital plate.
3. Dural plate.
4. Maxillary sinus.
5. Frontal sinus.
6. Lachrymal sac (dehiscences are most common).
7. Optic nerve at the foramen (where it is normally coated by 2.0 to 5.0 millimeters of bone is much better protected than at the sphenoidal sinus).

STIGMATA OF MULTIPLE SCLEROSIS

In addition to keeping these possibilities in mind it is just as essential to keep in mind some of the main stigmata of that most interesting and variable disease, multiple sclerosis. We must be particularly concerned about this disease since it is estimated that optic atrophy occurs in 50 per cent of the cases, often abruptly enough to be readily confused with retrobulbar neuritis.

Multiple Sclerosis:

1. Possibly of infectious origin. Often confused with hysteria, paralysis agitans, Friedreich's ataxia, or Meniere's disease, as well as with retrobulbar neuritis.
2. Optic atrophy in 50 per cent of the cases,[7] and may begin in early life.
3. Intention tremor.
4. Nystagmus.
5. Scanning speech.
6. Remissions are quite common.
7. Bladder disturbances (late as a rule).
8. Vertigo (late as a rule).

Whether European clinics actually encounter multiple sclerosis more frequently than American clinics is difficult to say. Certainly, by reference to the extreme percentages, about twice as many cases are sifted out of the retrobulbar group and placed in the multiple sclerosis group in European clinics as are so classified in American clinics at present. For instance Sheerer [8] reports that 80 per cent of the retrobulbar neuritis cases in the Tübigen eye clinic (64,000 admissions in 1921 to 1928) were later classified as multiple sclerosis, 6 per cent as alcoholic, and 11 per cent unknown; 5 per cent represented relapses, leaving only 1½ to 3 per cent of retrobulbar neuritis from definite sinusitis. The next highest report is 66 per cent by Fleisher [9] from the same clinic in 1908. Then 54 per cent by Davis [10] in England, while Langenbeck and Tarle [11] both report about 25 per cent. This gives a general average of 50 per cent of retrobulbar neuritis representing multiple sclerosis. Thus we have: 50 per cent of optic atrophy in multiple sclerosis and 50 per cent of multiple sclerosis in retrobulbar neuritis.

REPORT OF CASE

When one finds a field such as the following in a patient who has rapidly lost vision, the few points already mentioned seem all too meager on which to take a stand as to whether or not operation shall be advised. Indeed the question seems usually to be presented with a feeling that a sinus operation should be done.

Case 1.—Patient came under observation on October 12, 1928. Mrs. L. M., widow, age forty-three.

Complaint.—Blindness of right eye, first noticed when reaching for transfer ticket and widely missing it.

History.—Always had good health until her husband (a physician) died a year ago, when worry and work began to make her feel extremely tired. Two weeks ago one of her two children had the grippe and tonsillitis, and now her mother is sick with the grippe. Patient has kept up, but after a sixty-mile drive had such a feeling of malaise and grippe that she took a Turkish bath four days ago, and two days ago, although feeling better, the blindness O. D. was noted. Now, though tired, does not want to go to bed, but is much worried about her eyesight. No disease evident in sinus, by x-ray and nasal examination. Wassermann negative.

Eye Examination.—Vision, O. D., shadows only. Vision, O. S., 20/15. Fundi clear and within normal limits in all appearances. Disks good color, slightly rosy, left same as right. Venous pulsation noticeable on left disk. Not distinguishable in right eye. Fields: O. D., very large central scotoma with a border of weak peripheral vision. Color vision nil. O. S., close to normal except for a rather large blind spot having a tendency to expand temporarily, testing with 1/2000 (Figs. 1 to 6).

Comment.—After the first field is taken in a case of this sort the ophthalmologist will usually be expected to decide for or against an intranasal operation. In the absence of positive findings, except abrupt central defect in the field, our decision was against operation and in favor of treatment while searching for progressive changes in the field. The diagnosis rests principally between retrobulbar neuritis and multiple sclerosis. In the former the strong tendency to recover as soon as the worst stage is reached in a very high percentage (as high as 85 per cent given by Weill [12]) of the cases is well known. In the latter condition remissions are characteristic. Therefore a certain amount of watchful waiting and recording is justifiable. When a tendency to recover is detected the case can often be grouped among those which improve: with, in spite of, or without an operation.

The same may almost be said of treatment. Yet I have been so impressed with the recent work on virus infection [13] as a possible explanation, not only of retrobulbar neuritis, herpes, sympathetic ophthalmia, etc., but also of multiple sclerosis that I have used heavy doses of salicylates as advocated by Gifford for sympathetic disease, combined with nasal shrinkage and suction, with occasional normal saline irrigation. Rest in bed except perhaps for office examinations is urged. While these patients may recover without treatments, nevertheless treatment along these lines seems helpful not only to the morale of the patient during the panicky period, but also in maintaining the contact neces-

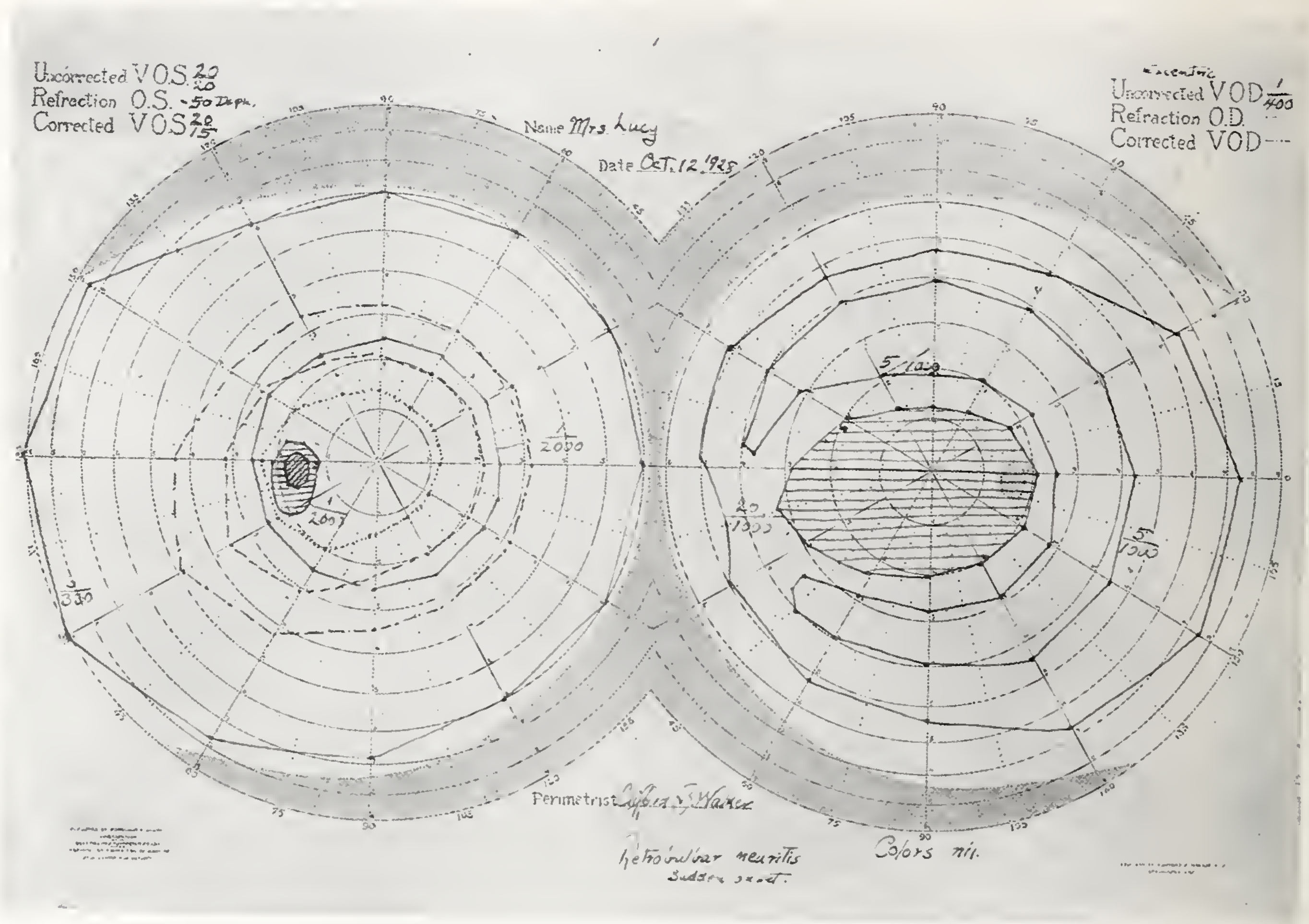
1
Uncorrected V.O.S. 20/20
Refraction O.S. -50 Deph.
Corrected V.O.S. 20/15
Name Mrs Lucy
Date Oct. 12 1928
Excentric
Uncorrected V.O.D. 1/400
Refraction O.D. --
Corrected V.O.D. ---
2/2000
1/2000
5/1000
20/1000
5/1000
3/330
Perimetrist Clifford J. Walker
Retrobulbar neuritis
Sudden onset.
Colors nil.

Fig. 1 (Case 1).—Retrobulbar neuritis, O. D. second day, very large central scotoma, color vision nil, bracelet field.

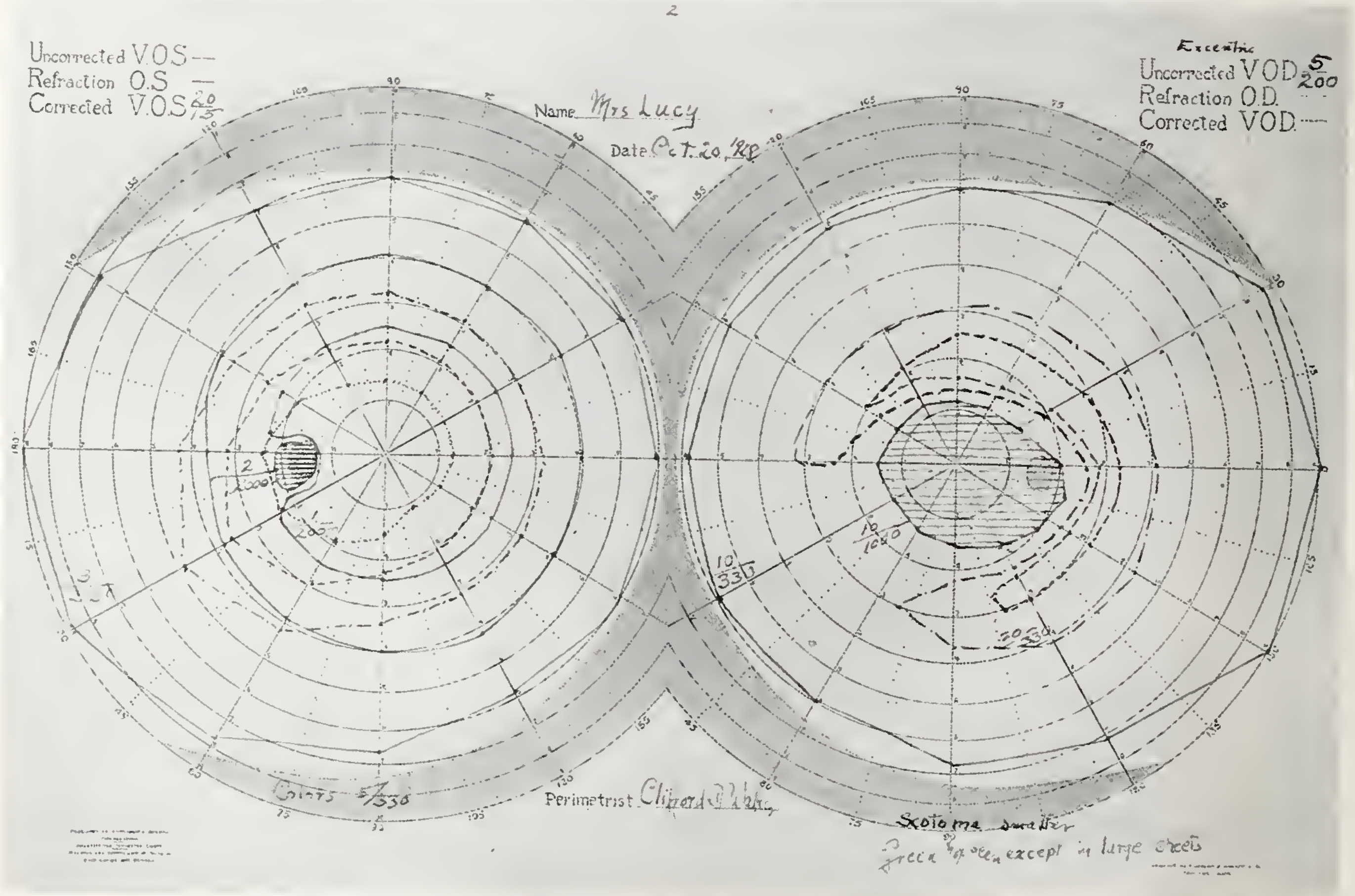
2
Uncorrected V.O.S. --
Refraction O.S. —
Corrected V.O.S. 20/15
Name Mrs Lucy
Date Oct. 20 '28
Excentric
Uncorrected V.O.D. 5/200
Refraction O.D. --
Corrected V.O.D. ---
2/2000
1/2000
3/330
10/1000
10/330
20/330
Colors 5/330
Perimetrist Clifford J. Walker
Scotoma smaller
Green not seen except in large circles

Fig. 2 (Case 1).—Retrobulbar neuritis, O. D. tenth day, scotoma shrinking, colors returning under treatment.

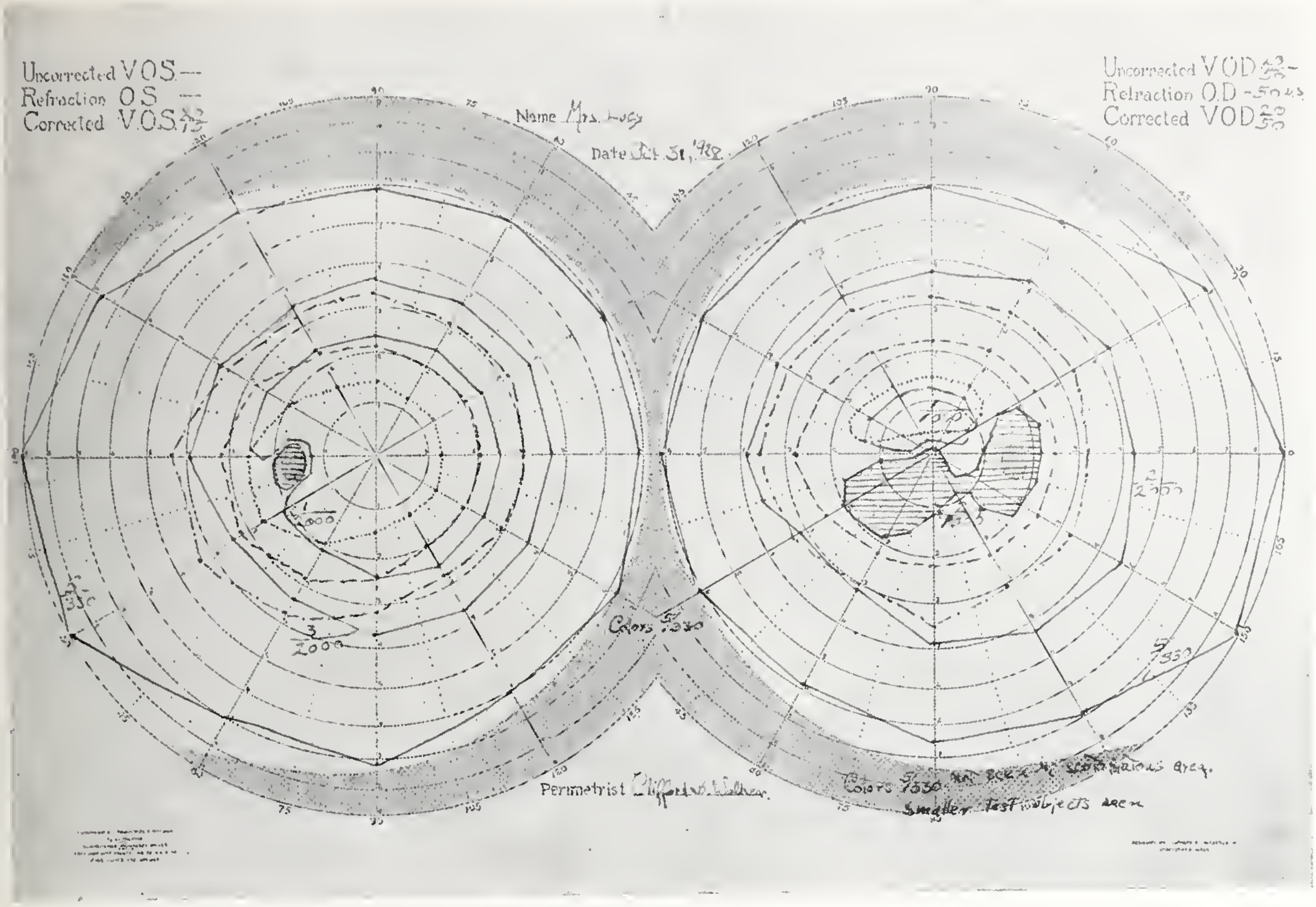
Uncorrected V.O.S. —
Refraction O.S —
Corrected V.O.S. 20/15
Name Mrs. Lucy
Date Oct. 31, 1928
Uncorrected V.O.D. 20/50
Refraction O.D. -50 DS
Corrected V.O.D. 20/30
1/2000
3/2000
2/330
Colors 5/330
2/2000
Colors 5/330 not seen in scotomatous area.
Smaller test objects seen
5/330
Perimetrist Clifford Walker

Fig. 3 (Case 1).—Retrobulbar neuritis, O. D. twentieth day, all colors represented. Accurate inferior cecocentral scotoma, "dumbbell."

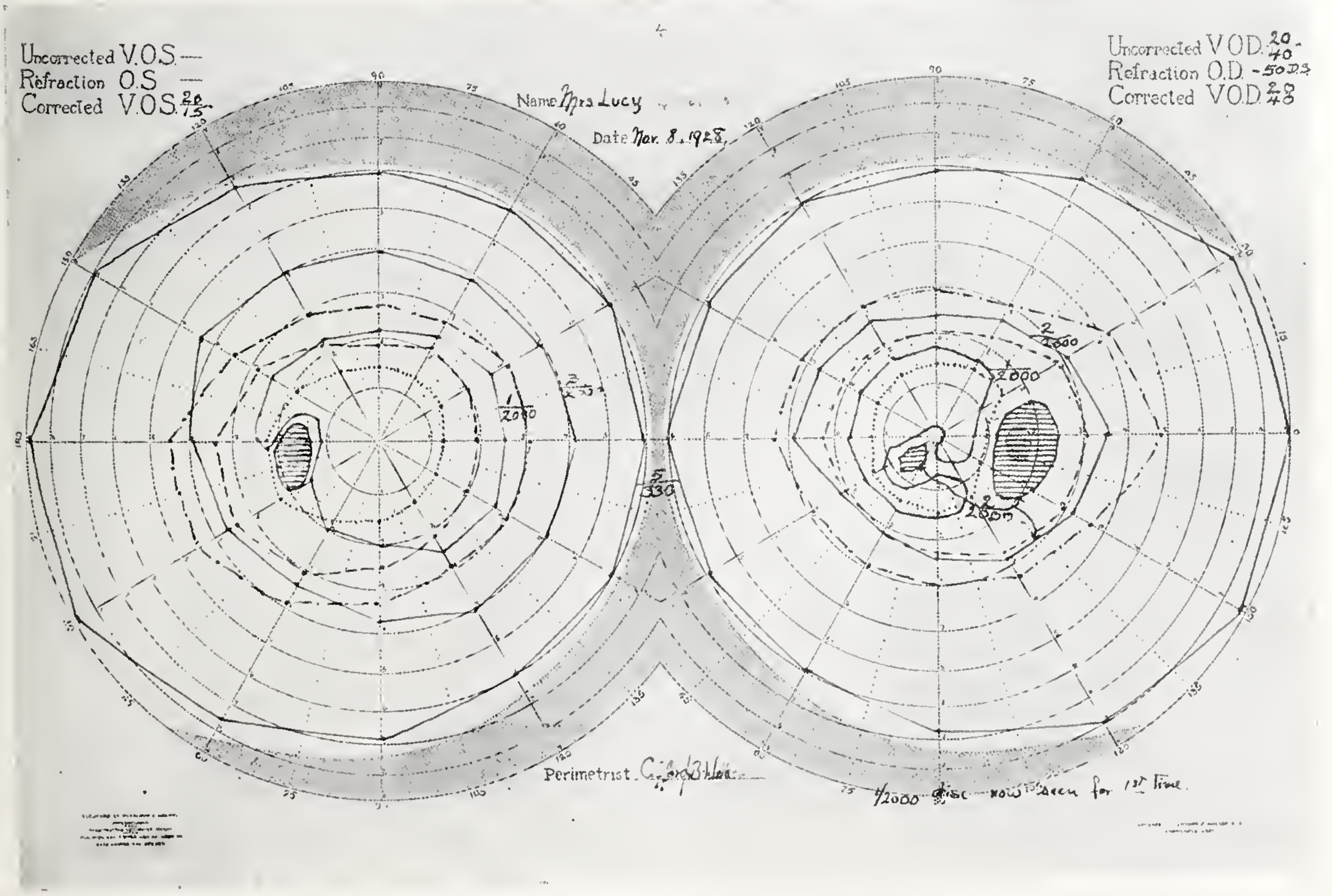
Uncorrected V.O.S. —
Refraction O.S —
Corrected V.O.S. 20/15
Name Mrs Lucy
Date Nov. 8, 1928
Uncorrected V.O.D. 20/40
Refraction O.D. -50 DS
Corrected V.O.D. 20/48
1/2000
2/330
5/330
2/2000
2/2000
2/2000
Perimetrist Clifford Walker
1/2000 disc now seen for 1st time.

Fig. 4 (Case 1).—Retrobulbar neuritis, O. D. thirtieth day, further improvement, enlarged blind spot, infranasal paracentral scotoma.

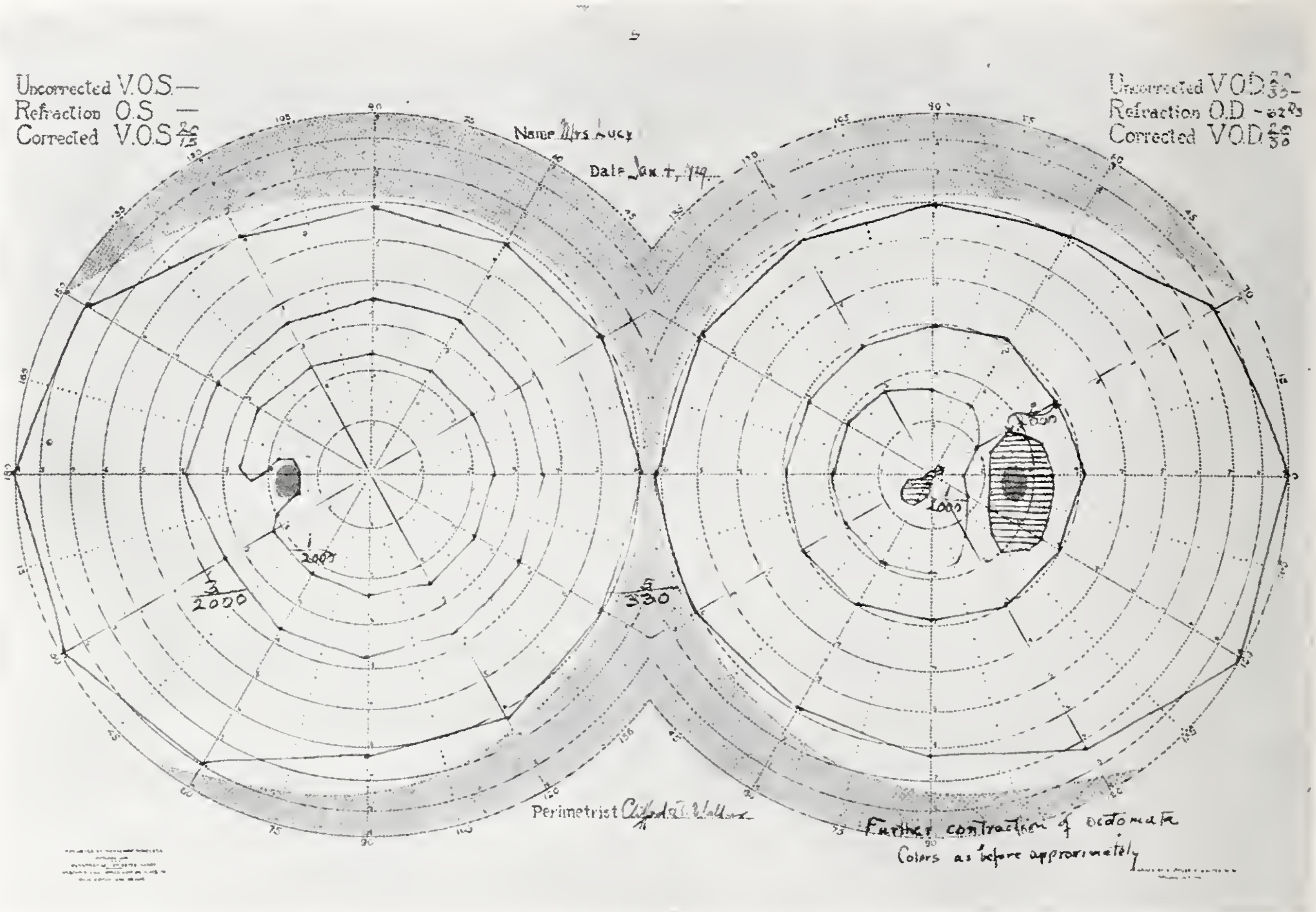
5
Uncorrected V.O.S. —
Refraction O.S. —
Corrected V.O.S. 20/15
Name Mrs Lucy
Date Jan 4, '29
Uncorrected V.O.D. 20/30-
Refraction O.D. -
Corrected V.O.D. 20/30
1/2000
3/2000
5/330
Perimetrist Clifford B. Walker
Further contraction of scotoma
Colors as before approximately

Fig. 5 (Case 1).—Retrobulbar neuritis, O. D. ninetieth day, form fields show still further improvement, scotoma only demonstrated with 1/2000 disk.

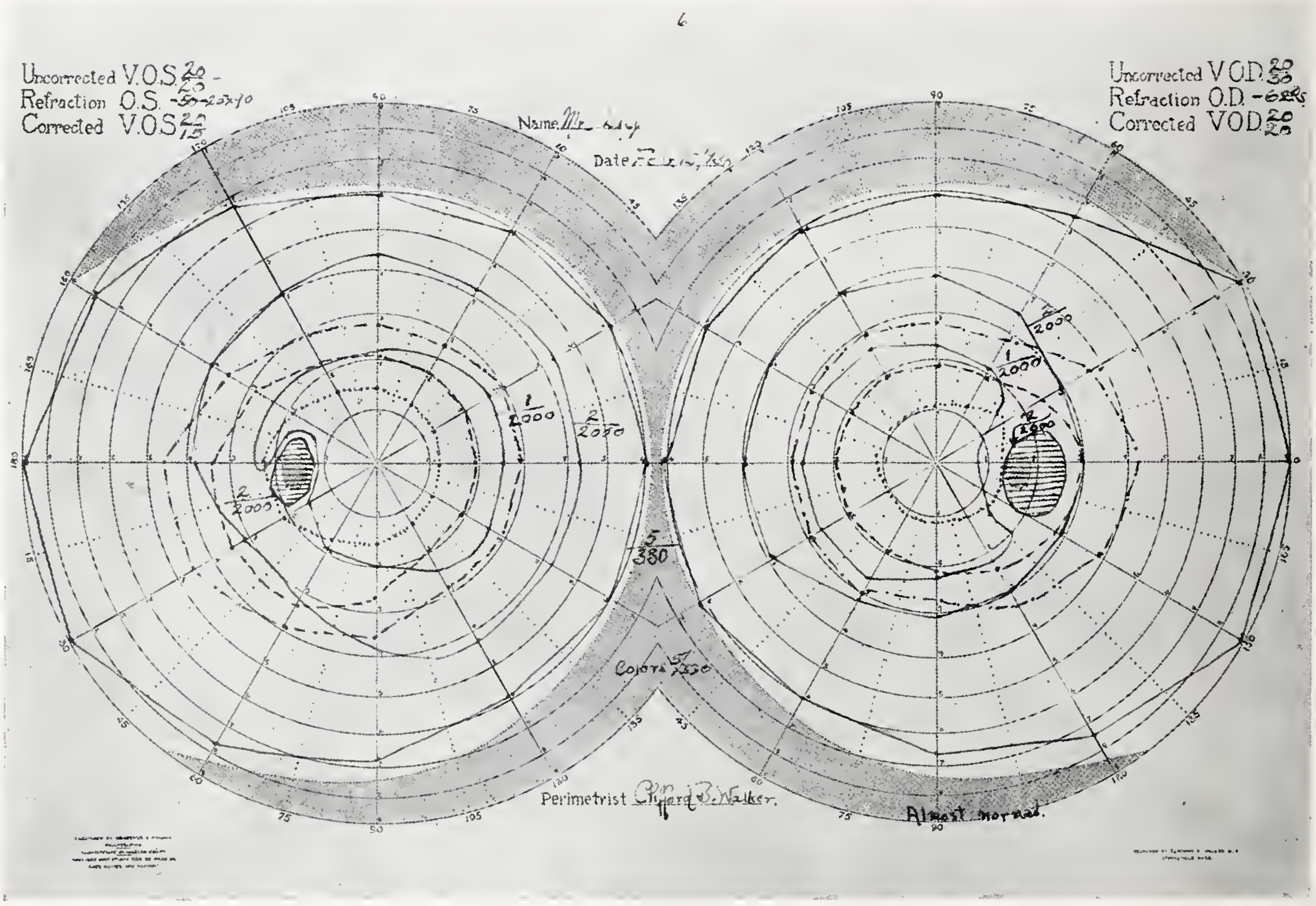
6
Uncorrected V.O.S. 20/50 -
Refraction O.S.
Corrected V.O.S. 20/15
Name Mr Lucy
Date
Uncorrected V.O.D. 20/30
Refraction O.D.
Corrected V.O.D. 20/20
1/2000
2/2000
5/330
Colors 5/330
Perimetrist Clifford B. Walker
Almost normal.

Fig. 6 (Case 1).—Retrobulbar neuritis, O. D. sixteenth month, vision is perfect as far as the patient is concerned, slight enlargement of blind spot and some alteration of both 1/2000 contours.

sary to complete the field series and hold the patient in the proper course.

With the first show or report of improvement in the field or central vision, perhaps at the second visit as in this case, the ophthalmologist feels more certain of his ground. In some cases I have even used Burnham's[14] combined pilocarpin series (one-twelfth grain to fourteen grains in a series of ten daily, afternoon, injections), since elimination should be helpful.

It has been noticed that the slower the progressive improvement the greater is the chance for some residual damage around the blind spot and occasionally centrally also, as compared with those whose return of vision is so rapid that long before any chance of atrophy sets in the field is again normal. In the concluding part of this paper instances of the more rapid form of recovery and of multiple sclerosis will be given.

(To be concluded.)

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THE SURGICAL TREATMENT OF DUODENAL AND GASTRIC ULCER*

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Discussion *by Walter F. Wessels, M. D., Los Angeles; Clarence G. Toland, M. D., Los Angeles.*

THE results following surgical treatment of duodenal and gastric ulcer are best when care is exercised in the selection of cases and when the indications for surgery are most definite. In the absence of hemorrhage, perforation, obstruction, or gastric retention in cases of duodenal ulcer, the amount of disability and efficacy of medical management of the lesion are most important in determining whether or not the lesion is a surgical one. Many cases of duodenal ulcer of short duration will respond to medical treatment. Many others, where the symptoms and manifestations are sufficiently mild to produce little if any disability on medical and dietary management, are not surgical. In the absence of complications, all duodenal ulcers should be given the benefit of medical management, and only those manifesting repeated recurrence of symptoms, with subsequent partial or total disability, should be considered surgically. The complications of hemorrhage, perforation, or obstruction usually establish the urgency of surgical procedures. In general, it may be stated that somewhat less than 50 per cent of duodenal ulcers become surgical.

Surgeons are very prone, and properly so, to regard most gastric ulcers as surgical in the absence of contraindications to operation. Unquestionably, many gastric ulcers will heal under proper medical management. However, the relationship between gastric ulcer and carcinoma of the stomach cannot be denied. I have many times seen patients with carcinoma of the stomach who have had an antecedent history highly suggestive of ulcer. Whether or not there is any degree of agreement between surgeons, internists, and pathologists regarding the incidence of carcinoma developing upon an old gastric ulcer, it must be stated that the clinical differential diagnosis between a benign gastric ulcer and early carcinoma is not always easy and entirely accurate. There are many lesions of the stomach, as determined by clinical and roentgen examination, where only exploration and microscopic section will determine the accurate diagnosis. Whether or not gastric carcinoma is always a malignant lesion from its inception, or whether it may have developed on an old gastric ulcer, it is reasonable to suppose that most gastric carcinomas at some time have been no larger in their diameter than the usual gastric ulcer. The therapeutic test of differentiation has at times allowed an operable lesion to become inoperable during the period of observation.

I have recently reviewed the operative findings and surgical procedures in 933 cases of duodenal and gastric ulcer on my surgical service at the Mayo Clinic during the period from January 1, 1919 to May 30, 1930. There were 810 cases of duodenal ulcer and 123 cases of gastric ulcer, an incidence of 13 plus per cent of gastric ulcer—or one gastric ulcer to approximately six duodenal ulcers. The incidence of ulcer, according to sex, in this series was approximately the same: 82.7 per cent of duodenal ulcers, and 79.6 per cent of gastric ulcers occurred in the male. Intra-abdominal disease associated with duodenal and gastric ulcer is relatively common. That in the appendix was most frequently noted, occurring in 58 per cent of the patients with duodenal ulcer and in 43 per cent of the patients with gastric ulcer. Cholecystitis, usually with stones, was found associated with duodenal ulcer in forty-six patients. Cholecystectomy was done in forty of these. Hepatitis, of a variable degree, recognized as a local process similar to that often encountered in cholecystitis, was a frequent finding associated with duodenal ulcer. In two patients with gastric ulcer a true cirrhosis of the liver existed.

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* Read before the Southern California Medical Association, Long Beach, November 1, 1930.

Indirect operations were performed in 94 per cent of the duodenal ulcers, and direct operations, with some type of excision of the ulcer, were done in 78 per cent of the gastric ulcers.

SURGICAL PROCEDURES IN DUODENAL ULCER

The most satisfactory results that may be obtained in the surgical treatment of duodenal ulcer are those following posterior gastro-enterostomy for varying degrees of pyloric obstruction. It was in just such conditions that gastro-enterostomy was first used. The excellent results led to the deduction that if gastro-enterostomy gave satisfactory results when obstruction occurred secondary to duodenal ulcer, the same procedure should provide similar results when used in nonobstructive types of duodenal ulcer. Experience proved, however, that such was not always the case, and this led to the subsequent operations of occlusion of the pylorus when performing gastro-enterostomy for nonobstructive duodenal ulcer. The unsatisfactory results that occasionally occurred following gastro-enterostomy led to the development of the direct operations, which, for the most part, have had a limited field of usefulness. The careful selection of cases in which the indications for surgical treatment are clear has resulted in a higher percentage of satisfactory results following the indirect operations for duodenal ulcer in recent years.

Theoretically, the direct operation of excision of duodenal ulcer should provide a high percentage of good results. Excision is exceedingly desirable in the bleeding type of duodenal ulcer. Unfortunately, in many patients in whom hemorrhage has been a predominating symptom there is so much inflammatory reaction about the ulcer in the acute or subacute lesions, or so much scarring in many of the chronic lesions, that the indirect operation of gastro-enterostomy becomes the procedure of necessity. Likewise, the direct operation is not always applicable to those lesions on the posterior wall of the duodenum. A history of bleeding is obtained in about 16 per cent of duodenal ulcers. The indirect operation of gastro-enterostomy has been successful in controlling the symptom of bleeding in about 50 per cent of the bleeding duodenal ulcers. The direct operation of partial duodenectomy, as described by Judd, when applicable, has afforded greater assurance against recurrence of bleeding than any other surgical procedure. However, in a recent report, this author states that in seventy-three patients in whom there was a history of bleeding, there were one or more hemorrhages in seven patients in from four months to two years after the operation of excision and partial duodenectomy.

Slightly more than half of the cases of duodenal ulcer in my series were designated as subacute lesions; in many of these, by virtue of protective perforation, induration, and inflammatory reaction about the first portion of the duodenum, the direct operation was seldom applicable. Perforation, for the most part a protective one, posteriorly to the pancreas, or anteriorly to the gall bladder or inferior surface of the liver or surrounding structures, had occurred in about 16 per cent of the series. Obstruction of a variable degree had occurred in 19 per cent, a group in which the indirect operation has been followed by excellent results. In an additional four per cent there was dilatation of the stomach in the absence of true pyloric obstruction, best explained by disturbance of gastric motility.

Experience in recent years has shown that the results of simple excision of duodenal ulcer have not been so satisfactory as those in which, in addition to excision of the ulcer, some type of pyloroplasty has been done. The Heineke Mickulicz, the Horsley, and Finney operations have been those most frequently employed. The latter procedures have had to do with division of the pylorus in performing pyloroplasty, with varying results. Horsley recently reported only 45 per cent satisfactory results following his operation, failure having been due in most of the remaining cases to recurrent ulcer along the pyloroplasty incision. In recent years, Deaver has obtained results with the direct operation justifying continuation of the procedure in selected cases, when he has combined with excision of the ulcer, not only division of the pyloric sphincter, but resection of the anterior half of the structure. Judd has gone a step further and has excised the greater part of the pyloric sphincter, converting the stomach and duodenum into one continuous part of the gastro-intestinal tract, producing about the same physiologic changes that occur when gastro-enterostomy is performed. In the series traced, he has reported 90 per cent satisfactory results, with a mortality rate of less than one-half of one per cent. These results are comparable to the best results following gastro-enterostomy in carefully selected cases. There are certain limitations of the direct operation of excision and partial duodenectomy, and the operation is applicable usually only to those patients in whom mobilization of the duodenum is readily accomplished, in the absence of much fixation and extensive deformity of the duodenum. Such direct operations have been productive of much better results than gastro-enterostomy in the presence of uncomplicated ulcer, particularly in young people.

The indirect operation of gastro-enterostomy has given better results when used in old chronic duodenal ulcer, with or without obstruction, than in duodenal ulcers of relatively short duration, and particularly in young people. Even though the operation of gastro-enterostomy has not been followed uniformly by success, the procedure has a higher percentage of applicability than any of the direct operations. Few, if any, of the direct operations, even though applied in carefully selected cases, have been productive of results surpassing those derived from gastro-enterostomy. Graham of the Mayo Clinic, in 1913, reported the results of gastro-enterostomy, for the most part for duodenal ulcer, at which time 70 per cent of patients were reported completely relieved, and 18 per cent markedly improved, or a total satisfactory result of 88 per cent. Balfour has recently reported 87 per cent satisfactory results from the operation of gastro-enterostomy. Many factors are responsible for failure to obtain benefit in all patients, following gastro-enterostomy in duodenal ulcer. Gastro-jejunal ulcer has been credited with failure of from 3 to 30 per cent. However, a low incidence is the rule and quite probably the true incidence is within 5 per cent. The failure to remove associated disease in the appendix and gall bladder, and the persistence of associated organic disturbance outside the stomach and duodenum, are responsible in no small measure for incomplete relief following various operations for duodenal and gastric ulcer.

I believe that the radical operation of partial gastrectomy has very little, if any, place as a primary procedure in the treatment of duodenal ulcer. The direct and indirect operations for duodenal ulcer are performed with a mortality rate approximating two per cent. In the last 635 cases of duodenal ulcer on my surgical service at the Mayo Clinic, in which my records are complete, there were fifteen deaths, a mortality rate of 2.3 per cent. No large series of partial gastrectomy for duodenal ulcer has been reported with a mortality rate approximating this low figure. A mortality rate as high as 36 per cent has recently been reported by Hartwell and Felter for this procedure in duodenal ulcer. Certainly the incidence of secondary operation subsequent to the conservative surgical procedures for duodenal ulcer, be it for gastro-jejunal ulcer, or recurrence or reactivation of the original ulcer, is well within the limits of the difference in mortality rate between radical partial gastrectomy and the conservative surgical procedures. Partial gastrectomy is at times necessary as a secondary operation for persistence of bleeding after gastro-enterostomy, and in the absence of gastro-jejunal ulcer such partial gastrectomy may be accomplished with excellent prospects of cure and minimum risk, when the resection is done preserving the former gastro-enterotomy and completing the procedure as a Billroth No. 2. Subsequent partial gastrectomy is at times the procedure of choice in gastrojejunal ulcer, but as a secondary operation, under these circumstances it is usually accomplished with less risk than in primary partial gastrectomy for duodenal ulcer.

Primary partial gastrectomy does not necessarily insure against recurrence of ulcer. Balfour has recently reviewed fourteen cases in which recurrence of ulcer subsequent to partial gastrectomy required further surgery. When applicable the direct operation of excision with resection of the pyloric sphincter is the operation of choice; and the indirect operation of gastro-enterostomy for the remainder is productive of such excellent results that the radical operation of partial gastrectomy should be reserved as a secondary procedure when necessary for persistent bleeding or recurrence of ulcer.

SURGICAL PROCEDURES IN GASTRIC ULCER

The incidence of bleeding in gastric ulcer is somewhat higher than in duodenal ulcer. A history of hematomesis or gross hemorrhage into the intestinal tract is elicited in at least 20 per cent of cases of gastric ulcer. As to whether or not the lesion is benign or malignant cannot always be ascertained without microscopic section. Experience has proven that the types of operation that include excision of the ulcer are followed by better postoperative results than those in which the indirect operation of gastro-enterostomy only is applicable. The direct operations are, therefore, the ones of choice. By virtue of the acuteness of the lesion, its extensive involvement through protective perforation, or its location, the direct operation is at times inadvisable, and simple gastro-enterostomy only is applicable.

In the series of 123 cases of gastric ulcer herein reviewed, the indirect operation only was performed in 22 per cent. Many of these were for lesions high on the posterior wall near the cardia. In four, an anterior gastro-enterostomy with an entero-anastamosis was necessary because of inaccessibility of the posterior wall of the stomach. Balfour has recently reviewed one hundred cases in which simple gastro-enterostomy was done for gastric ulcer with a mortality rate of three per cent, and satisfactory results in 79 per cent. In general, by virtue of the extensive surgical procedures at times required for excision of the lesion, gastric ulcer is a more serious lesion than duodenal ulcer, and the surgical treatment of gastric ulcer is accompanied by risk at least twice that of duodenal ulcer.

The direct operations may be considered as conservative and radical procedures. The conservative procedures include excision of the lesion, plus, in the vast majority of instances, the indirect operation of gastro-enterostomy. The incidence of obstruction is high in gastric ulcer situated near the pylorus; however, gastric retention, often of high degree, was noted in many of the patients in whom the ulcer was situated in the middle third of the stomach. This is probably due to disturbance of motility through loss of continuity of the gastric musculature.

In very few cases of surgical gastric ulcer may a good result be expected following simple excision, unless it is for ulcer in the cardiac third of the stomach. Some degree of retention, with delayed emptying of the stomach, may persist after simple excision through disturbance of gastric motility. To obtain the best results, any conservative excision operation usually must be supplemented by the indirect operation of gastroenterostomy. The cautery destruction of the ulcer has given way to the cautery excision of the entire lesion and has proven a most satisfactory procedure when combined with gastro-enterostomy, and is accomplished with a low mortality rate and followed by excellent results. The cautery method of excision leaves a smaller defect in the stomach than the former knife excision procedure. Some type of excision, with gastro-enterostomy in all but four instances, was the method employed in 77 per cent of the direct operations. Some type of resection was used in the remainder, excepting in four patients in whom there had been an acute perforation. Partial gastrectomy, after the method of Polya, was most frequently employed. The Billroth No. 2 was the final procedure in two cases in which a resection was done as the second stage of a two-stage operation, a posterior gastro-enterostomy having previously been made. There are certain lesions in which the two-stage operation is to be recommended, particularly in patients in poor general condition and in cases where the one-stage excision of large perforating lesions would be accompanied by unjustifiable risk. The Billroth No. 1 and the sleeve resection have a very limited field of usefulness. The latter procedure is particularly suited to the hour-glass deformity occasionally encountered in gastric ulcer.

The choice of procedure is largely dependent upon the size and location of the lesion, and as to whether or not perforation has occurred. To disturb the protection afforded by the pancreas, or liver, or gastrohepatic omentum in the presence of a large subacute perforating ulcer with much surrounding inflammatory reaction, contributes greatly to the risk of any direct operation. On the other hand, many small or medium-sized ulcers that have gone on to perforation with subsidence of the subacute inflammatory process, and have assumed the characteristics of a chronic perforation, may readily be excised by conservative methods or radical partial gastrectomy. Very few gastric ulcers in the cardiac half of the stomach are readily and safely treated by partial gastrectomy. The conservative operation of excision and posterior gastro-enterostomy assures approximately as good a result and certainly less risk than a partial gastrectomy.

The relatively high incidence of hemorrhage, of subacute and chronic perforation, obstruction and gastric retention, and disability, provide the indications for surgical treatment in the majority of patients with gastric ulcer.

The question of gastro-enterostomy, in addition to closure of acute perforating duodenal or gastric ulcer, is dependent upon the time interval between perforation and operation. The mortality rate following operation varies from 5 to 35 per cent, according to the time interval, and not so much as to whether or not gastro-enterostomy is made in addition to closure. Closure of the perforation, with or without gastro-enterostomy, within six hours and during the period of contamination, results in a high percentage of recoveries, the mortality rate rises rapidly after the twelve-hour interval, with the onset of progressive peritonitis. In the event of recovery, simple closure of the perforation has obviated further symptoms when the perforating ulcer has previously been a symptomless lesion. However, those ulcers that have previously given symptomatic and other antecedent evidence of their presence usually recur after simple closure without gastro-enterostomy, and many require secondary operations, usually gastro-enterostomy. Thirteen patients in the series of duodenal ulcers herein reviewed had had previous closure of a perforating ulcer with recurrence of symptoms, requiring secondary operations. I am of the opinion that within the first twelve hours, primary attention should be directed toward treatment of the ulcer, and in many instances gastro-enterostomy may be done in addition to closure of the perforation without decreasing materially the chances of recovery. After twelve hours the ulcer becomes of secondary importance to peritonitis, and whether or not a gastro-enterostomy is made in addition to closure of the perforation has little to do with the question of recovery of the patient, except that the time required to perform a gastro-enterostomy, in addition to closing the perforation, often prolongs the operation sufficiently to defeat its purpose. Simple closure of the perforation, and the institution of adequate drainage, favors recovery. The necessity of secondary gastro-enterostomy in a patient who has recovered subsequent to simple closure of a perforation is preferable to the uselessness of a gastro-enterostomy in one who has failed to recover following operation that has been more extensive than a life-saving procedure.

555 Roosevelt Building.

DISCUSSION

Walter F. Wessels, M. D. (1200 South Alvarado Street, Los Angeles).—Doctor Hunt implies that the treatment of peptic ulcer is primarily medical.

With this we probably all agree.

That there are definite surgical indications no internist can deny.

When these surgical indications are so clean-cut and definite in the minds of the general surgeon and internist as they are in the mind of the writer of this paper, and surgery is undertaken with these indications as a foundation, a definite advance will have been effected in the successful treatment of ulcer.

It has been the attitude of too many general surgeons that ulcer is a surgical condition. This has resulted in many miscarriages of treatment.

On the other hand, too many practitioners and internists have failed to clearly define surgical indications and thereby have failed to secure optimal results.

The re-reading of the first paragraph of this most excellent paper will clarify much of the confusion that has existed as to the indications for surgery. We are in full accord with the statement of indications, with the possible exception of hemorrhage. Acute hemorrhage is generally not surgical. Repeated bleedings from an ulcer may often demand surgical intervention.

I hold that it is the province of the well-qualified internist to determine surgical indications, recommend surgical interference and to leave the surgery, with its mechanical details, to the surgeon. These details have been extremely well set forth in this paper.

If, then, the surgeon keeps in mind the admonition of Doctor Hunt "that the failure to remove associated disease in the appendix and gall bladder, and the persistence of associated organic disturbance outside the stomach and duodenum are responsible in no small measure for incomplete relief following various operations for duodenal and gastric ulcers," surgery and medicine will have been much benefited.

However, the eradication by surgery of the local manifestation of ulcer is only a part of the successful treatment. The medical and dietary management after surgery is of no small importance.

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Clarence G. Toland, M. D. (1930 Wilshire Boulevard, Los Angeles).—The degree of benefit to be expected in the treatment of gastric and duodenal ulcers depends on many factors, but perhaps none are more important than the surgeon's judgment in deciding when to operate, and in selecting the proper procedure with the ulcer exposed.

Undoubtedly, many of the poor results obtained in the past have been due to either a hasty selection of surgery, an unfortunate choice of surgical procedure, or failure to enforce a strict postoperative regimen.

Doctor Hunt has emphasized the incidence of other intra-abdominal diseases which occur coincidentally with duodenal and gastric ulcers, and we believe these are responsible for the persistence of symptoms postoperatively in many cases.

Pylorospasm, gastric retention, and hyperacidity are almost constant sequelae of peptic ulcers, and the cures that occur from medical treatment are due to correction of these conditions. By the same token, surgery can only succeed in improving an ulcer in the degree that it can relieve these factors.

Excision of an ulcer alone thus gives inferior results unless combined with some form of pyloroplasty or gastro-enterostomy. In duodenal ulcer, Judd's excision of the anterior half of the pyloric sphincter is rational, allowing alkaline regurgitation into the stomach and free motility of the gastric contents.

Whatever improvement follows posterior gastro-enterostomy is in proportion to the correction of these factors.

Similarly with the gastric ulcer, pylorospasm and retention are common, and posterior gastro-enterostomy, in addition to cautery excision, is superior to excision alone.

Physiologically, partial gastrectomy for certain gastric and duodenal ulcers is a sound operation; it removes the ulcerous, acid-forming area with consequent lower postoperative acid figures, it corrects pylorospasm and its attendant evils, and the recurrences are definitely less although they do occur. Practically, however, the high mortality restricts its usefulness to a narrow field.

By regarding gastric and duodenal ulcers as pathologic conditions dependent primarily upon a disordered physiology, the reasons for the superiority of certain surgical procedures can be seen.

Only careful consideration by both the surgeon and the gastro-enterologist extending over a long postoperative period, can we obtain the best results in treating these pathologic lesions, the cause of which we are ignorant.

Doctor Hunt's paper, based on a large series of cases over a period of eleven years, is of great value in establishing the comparative merits of the various surgical procedures advocated.

MULTIPLE MYELOMA*

REPORT OF CASE

By Lloyd Bryan, M. D.
and
Joseph Levitin, M. D.
San Francisco

Discussion *by Edwin I. Bartlett, M. D., San Francisco; C. L. Connor, M. D., San Francisco.*

Myeloma is a primary malignant disease of bone, characterized by multiple foci in the vertebrae and flat bones of the skeleton. It is associated with an anemia.

The first case described was one by McIntyre in 1845. There have been few additions to the literature, and as late as 1905 Wood was able to collect only thirty cases. With the use of x-ray, diagnosis was made simpler and in 1927 Geschickter and Copeland [3] collected four hundred and twenty-five cases, thirteen of which were their own. Kolodny [5] found only nine typical cases in a review of the material of *The Registry for Bone Tumors.*

The disease is most frequent after middle life, comparable to the age incidence of carcinoma. However, cases have been reported in children.

In common with all malignancies the etiology is unknown. Trauma has been claimed to play an important part. A history of trauma has been found in most cases. However, most patients can recall a trauma some time in their life, and it alone would not explain the multiplicity of the lesions.

The rôle of infection has been seriously considered. In favor of this is the febrile course of the disease and the type of plasma cell found being characteristic of chronic infection.

The most frequent site of the tumor is in the flat bones and spine. All the skeletal bones may be involved. The tumor is confined to the red marrow. It may expand the cortex, thinning it, or may break through. The growth may be very vascular, causing pulsation, or it may be semifluctuant as a result of previous hemorrhage. Tumor nodules are often felt along the ribs as the result of expansion of the tumor from within.

While the disease is primarily one of the bone marrow, tumor growths have been found elsewhere, as in the liver, spleen, and regional lymph nodes. It is questionable if these are metastatic or are separate nodules arising in the reticulum of the hemopoietic system. Pulmonary lesions are not found, which is an aid in the differential diagnosis by x-ray.

CLINICAL SYMPTOMS

The most outstanding symptom present in all cases, and which first brings the patient to the doctor, is pain. The onset is insidious, and may be vague, intermittent, neuralgic or rheumatic pain; aggravated by motion or pressure. This may be followed by a period of remission during which the patient is relatively free of symptoms. It is this indefiniteness that accounts for the diagnostic failures in the early stages of the disease. Characteristically, pain is felt on percussion of the bones. Usually it is limited to the back and is attributed to compression of vertebrae, encroachment on the nerve roots by the tumor or periosteal irritation. With involvement of the ribs, pain is present. Headaches are frequent with skull involvement.

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* From the Department of Roentgenology, Mount Zion Hospital.

* Read before the Radiology Section of the California Medical Association at the fifty-ninth annual session at Del Monte, April 28 to May 1, 1930.

With involvement of the spinal column, paraplegia may result. This is caused by compression of the cord by the tumor. Neurological findings of bilateral exaggerated reflexes, positive Babinski, ankle and patellar clonus are present. These changes often recede, probably as a result of vascular changes in the spinal tumor, effecting a regression in its size.

The gastro-intestinal symptoms of nausea, vomiting, and colicky pain may be associated with compression of the spinal cord, or may be due to anemia. In the terminal stages they are often a result of the enterocolitis.

Pathological fracture is a frequent complication. The fractures are often multiple. Union is generally slow and may not take place. Fifty per cent of all the fractures occur in the ribs.

With involvement of the spine, there may appear a characteristic deformity, as described by Geschickter and Copeland,[3] viz., a dorsal kyphosis and flattening of lumbar curve, resulting in a habitus of a protruding abdomen, bulging lower ribs and feet set at a wide base to maintain equilibrium. There may be an actual diminution in size of the patient.

The blood pressure is generally low.

LABORATORY FINDINGS

Myeloma is closely associated with the discussion of Bence-Jones protein. This is a true protein first observed in the urine of patients with this disease by Kahler [4] in 1889. It is precipitated in the presence of acetic acid, coagulating at 40 to 50 degrees Fahrenheit and dissolving on warming. The amount excreted is variable, usually not exceeding one per cent. At first considered specific for myeloma, Bence-Jones protein has been found in other diseases of the bone marrow, namely, metastatic tumors of the bones, multiple sarcoma, osteomalacia, polyfibrocystic disease, lymphatic and myeloid leukemias, and chloroma. This protein is not consistently found, occurring in only 50 per cent of cases. It is intermittently found in the same patient. Casts, red blood cells and albumin are frequently found.

The number of red blood cells is usually between two and three million. Normoblasts and myelocytes have been reported in the blood stream. Plasma cells of the same type seen in the tumor have also been found in smears. These findings indicating regeneration, exclude this disease from falling in the class of aplastic anemia, where attempts of regeneration are not found. The white count varies. Leukocytosis, sometimes found with myelocytes, has led some to regard this disease in the nature of a leukemia. But these findings can be explained by secondary infection, which is often present.

Anemia is a characteristic feature of the disease and is found in the late stages.

The x-ray findings are characteristic and diagnostic. Areas of rarefaction, without bone production, which may expand the cortex; multiple lesions in the flat bones and vertebrae may only be confused with metastatic malignancy. In the spine there may be collapse of the affected body.

DIFFERENTIAL DIAGNOSIS

With the complete syndrome of multiple destructive lesions involving the flat bones and spine, an unexplained anemia and the presence of Bence-Jones protein in the urine, a diagnosis of a myeloma is easily made. Early in the disease differentiation may be extremely difficult.

Tabes dorsalis may be simulated: by the girdle-like pains as result of pressure of the tumor on the spinal nerves; Pott's disease by the erosion of the vertebral column; pernicious anemia by the high color index and nerve changes when the cord is involved. Osteomalacia is simulated by the anemia, deformity, and Bence-Jones protein. The clinical course in both diseases is similar. It is here that the x-ray differentiates the two conditions. Furthermore myeloma does not cause bending of the extremities as found in osteomalacia. Osteitis deformans is simulated by the deformity, but in myeloma there is no bowing of the tibia and no increase in the width of the tables of the calvarium. Nephritis is suggested by the low kidney function, high nonprotein nitrogen retention, albumin, and frequent red blood cells. More cases have been wrongly diagnosed as chronic nephritis than any other disease. The blood pressure in myeloma is always low. Blood chemistry studies will prevent errors in diagnosis. Differentiation from metastatic malignancy is the most difficult problem with the x-ray. The duration of the disease, location of the lesions, and the different types of anemia aid in making the diagnosis. Exploratory incision for microscopic section can be easily made, although Kolodny [5] feels that this procedure is unnecessary because the disease can be diagnosed without it. He also points out that Ewing's sarcoma may be confused microscopically with a myeloma when overstained. Ewing's tumor may be differentiated by the fact that it is a single lesion.

Prognosis.—The disease is fatal. The average duration is two years. Wallgren [6] and Geschickter [3] report patients living five years after onset. Death may be due to extension of the tumor or to the anemia.

Treatment.—As in other malignancies, treatment is only palliative. Deep roentgen therapy offers the best relief. The pain is relieved remarkably by a few exposures. In a disease that tends toward remissions it has been questionable how much of the improvement is due to the actual destruction of the tumor. It is commonly believed that x-ray is only palliative and does not cure or arrest the disease. In our case it was noted that not only was the pain relieved under therapy, but new bone filled in the destroyed areas. The tumor became smaller and the patient was kept comfortable for a period of three years.

Transfusions are indicated when the anemia is severe, and it is advisable to keep the patient at rest to avoid pathological fractures.

REPORT OF CASE

History.—A woman, age thirty-nine, born in Vienna, Austria, married and having two children, had diphtheria at the age of twenty and an appendectomy at the age of twenty-five. During her fifth month of pregnancy she began to feel pain in the upper dorsal spine. The pain was more severe at the end of the day and relieved when she lay in bed; with this there was weakness in her legs.

Physical Findings.— Essential findings as follows: Temperature, 99 degrees Fahrenheit. Blood pressure 134 millimeters, systolic. An area of dullness existed in the chest between the upper angle of the right scapula and spine, with diminution of the breath sounds. Flexion was limited and painful in the dorsal region, and the dorsal spine was held rigid. Knee-jerks were increased. Knee and ankle clonus was present. There were disturbances in sensation to sharp and blunt between the costal margin and the groin, hypoasthesia to hot and cold, and a marked Romberg.

X-ray: A rounded irregular shadow of increased density was seen at the level of the head of the third right rib, suggesting a new growth, and there was a destructive process of the fourth rib on the right, extending from the postaxiliary region to the vertebral column, and on the ninth rib on the left.

Blood: Hemoglobin, 70 per cent Sahli; red blood cells, 3,850,000; white blood cells, 8200.

Urine: Negative.

X-ray examination, including gastro-intestinal series, failed to reveal a primary growth.

Impression: A malignant tumor, probably primary in the lung, with metastases into the ribs and fourth dorsal vertebra.

Examination one year after onset, October 1927, showed increased neurological findings. Patient had a complete paraplegia. X-ray showed destructive processes involving the third and sixth ribs anteriorly on the left, ninth and tenth posteriorly on the left, the fourth and eleventh ribs on the right, and the fourth dorsal vertebra. The urine showed numerous red blood cells and a slight trace of albumin. Bence-Jones protein was not found. Impression was of the presence of multiple malignant tumors of the spine and ribs; with question of a primary hypernephroma in view of the findings of red blood cells in the urine. At this time the patient was referred to us for x-ray therapy by Doctors L. Eloesser and R. Morris. Radiation was given over the dorsal spine and affected ribs, using 200 kilovolts, one-half millimeter copper filter, at a distance of fifty-five centimeters. Exposures of one hundred milliampere minutes were given. The response was almost immediate. Pain was relieved and signs of cord pressure disappeared. For the following year the patient received treatments at intervals, returning whenever pain reappeared. In the interim she was able to be up and about, and perform her routine household duties. Her condition was closely checked by x-ray studies. The areas of destruction showed regeneration of bone. In October 1928, after an absence of two months, she returned with swelling over the maxilla, headaches, and pain low in the pelvis. The x-ray picture showed multiple areas of rarefaction in the skull and a similar process in the pelvis. The blood at this time showed: hemoglobin, 60 per cent Sahli; red blood cells, 4,000,000; white blood cells, 6000. The urine contained a trace of albumin, no blood cells, and no Bence-Jones protein. A few exposures over the calvarium reduced the swelling over the maxilla and relieved the headache. On account of loss of hair she refused further treatment over the skull. She did not reappear for three months, when in response to a follow-up letter she returned. Her complaint now was weakness and pain over the lower back. The blood showed a marked change. The hemoglobin was 18 per cent Sahli; red blood cells, 1,200,000; white blood cells, 1550; and 86 per cent polymorphonuclears. Therapy over the affected areas was given with relief of pain. It was noted here that the color index had risen from 0.75 to 1.0, resembling a primary anemia. A blood transfusion was given and a definite improvement followed. For the following two months frequent transfusions were given. This was always followed by a temporary improvement in her general condition. Repeated examinations of the urine for Bence-Jones protein were negative.

During the patient's stay in the hospital the elevation of temperature averaged 37.8. A biopsy was made at this time from a section of bone that had received no radiation.

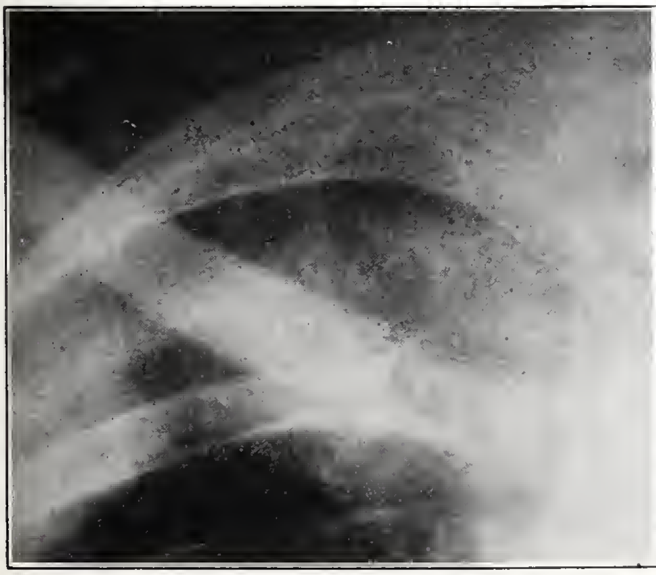

Fig. 1.—Destruction of the third rib posteriorly. Expansion of the head to a large tumor mass. October, 1926.

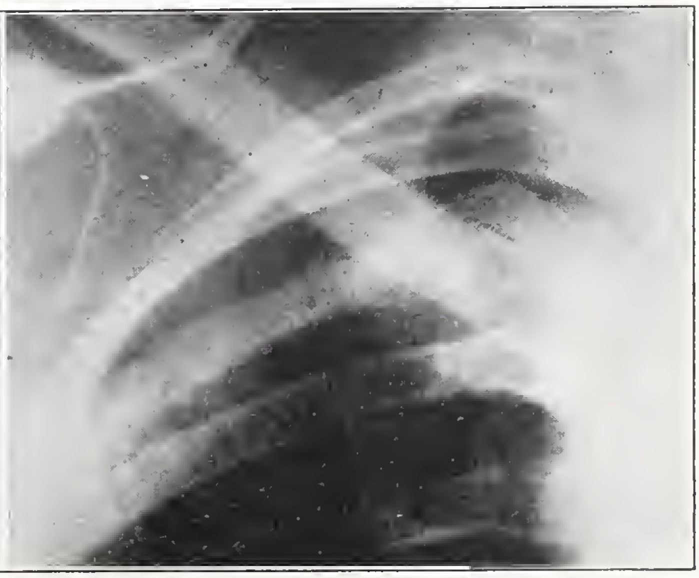

Fig. 2.—Regeneration of bone; shrinking of the tumor mass of the head of the third rib, following x-ray therapy. May, 1927.

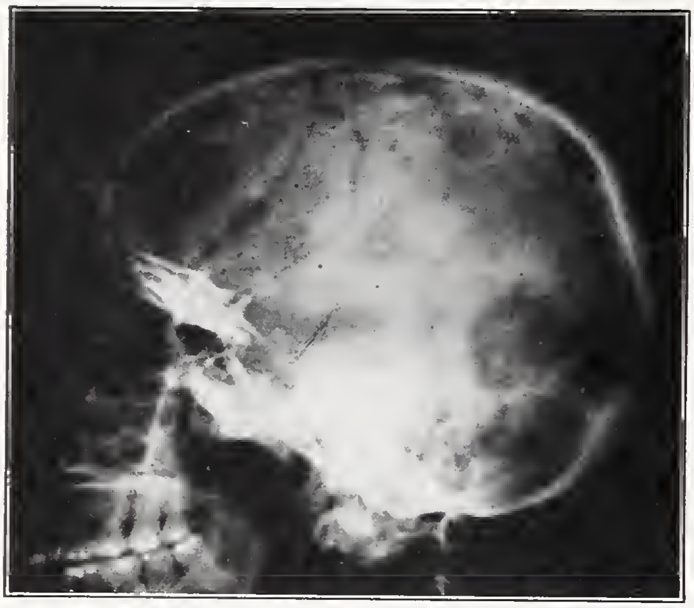

Fig. 3.—Multiple areas of destruction involving the calvarium. October, 1928.

Pathological report by Dr. C. Y. Rusk—Myeloma: The patient went progressively downhill. She had little pain, was weak and exhausted, and died after an illness of three and one-half years from onset.

Autopsy report: The ribs showed an irregular nodular appearance. Section showed medullary portion expanded, portions of the cortex eroded, and in some places thickened by new bone formation. Tissue between the bone was grayish red. The head of the third rib on the right was expanded to a diameter of about two and one-half centimeters. The bone marrow of the right femur showed no gross involvement and was very red and cellular.

Section: The spleen showed excessive blood pigment in the pulp cells, suggesting excessive blood destruction. The femoral bone marrow was hyperplastic and congested with multiple erythroblastic foci and groups of large primitive cells probably of myelocytic series. Decalcified sections of involved ribs showed presence of abnormal cells in a fibrous and vascular stroma. The cells resembled plasma cells, but the cytoplasm was of a distinct granular appearance. Many large phagocytes were seen laden with hemosiderin, due to blood destruction. A desmoplastic reaction was present, surrounding the small groups of remaining tumor cells and filling in the marrow spaces.

COMMENT

Two theories have been held as to the cause of the anemia. The first and most common is that it is result of bone marrow involvement. Charlton[2] found hemosiderosis of the liver and spleen and also an increased icteric index. He regarded this as evidence of blood cell destruction, thus explaining the anemia.

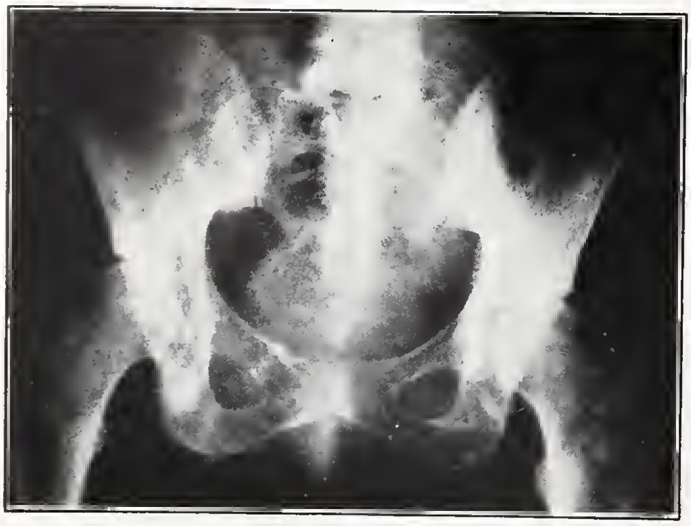

Fig. 4.—Multiple areas of destruction involving the pubic rami. October, 1928.

The above case report also brings out the fact that the anemia is not result of bone marrow involvement. When the patient was first seen in May 1927, the blood showed a hemoglobin of 70 per cent Sahli; red blood cells, 3,850,000. Bony involvement was limited to the third and fourth bodies of the dorsal spine and numerous ribs. Eighteen months later, with further rib involvement and involvement of the pelvis and skull, there was no appreciable change. The hemoglobin was 60 per cent Sahli; red blood cells, 4,000,000. In May 1929, two years since the first blood examination, without further involvement of bones that could be determined by x-ray, the anemia became severe, notwithstanding the fact that under radiation regeneration of bone was seen in some of the involved ribs. The color index did not resemble the secondary anemia from bone marrow involvement, as seen in metastatic malignancy. Early in the disease the color index was 66 per cent; as the anemia became progressive the color index rose and finally just before death, reached 1.3 per cent, resembling a primary anemia.

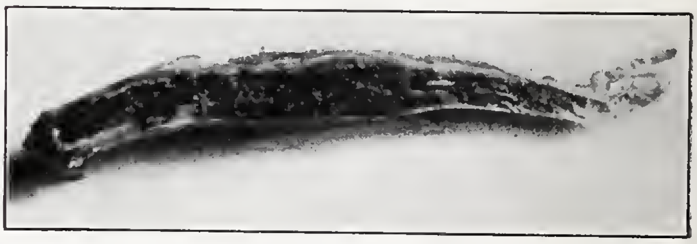

Fig. 5.—Expansion of the medullary portion of the rib by tumor mass, with areas of new bone formation.

Autopsy showed bone involvement only as was found by x-ray films, and evidence of excessive blood destruction in the finding of blood pigment in the pulp cells of the spleen. Hyperplastic and congested bone marrow was found in the long bones not involved by tumor, showing attempts at blood regeneration.

CONCLUSION

A myeloma is a malignant disease of bone associated with an unexplained anemia. The tumor responds to radiation. The anemia is not the result of bone marrow involvement by the tumor. The anemia resembles a primary anemia and all methods of treating primary anemia should be tried, such as liver extract, spleen marrow, and frequent blood transfusions.

450 Sutter Street.

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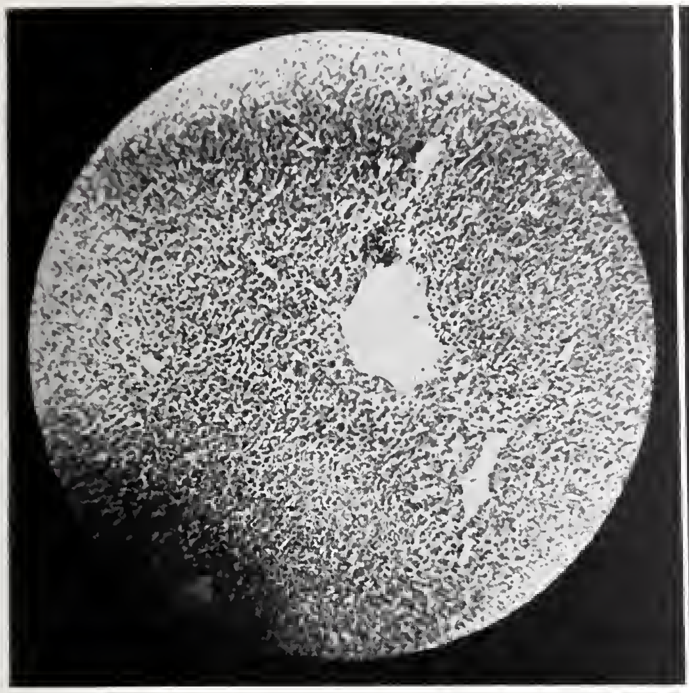

Fig. 6.—Microscopic section of tumor before radiation. Low power.

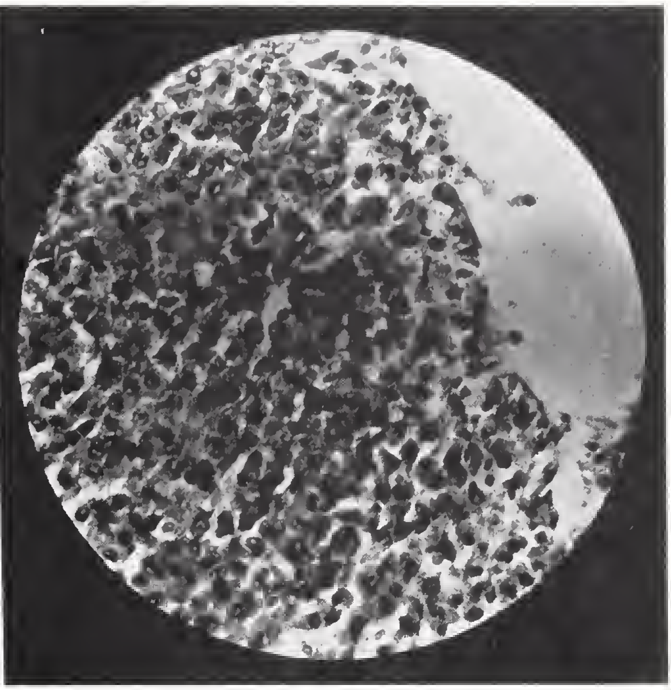

Fig. 7.—Microscopic section of tumor before radiation. High power.

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DISCUSSION

Edwin I. Bartlett, M. D. (490 Post Street, San Francisco).—The study of myeloma perhaps has been neglected because we have always considered it to be a hopeless disease, and as far as our records go there is not a single therapeutic cure of an authentic case. Perhaps our indifference and lack of study has allowed a curable disease to remain hopeless. The authors are to be commended for venturing into such an unpromising field and should be encouraged to continue their careful study and close observations. Their description of the disease and differential diagnosis is recommended as a very concise and complete summary, and the case report is unique indeed.

The cure surely is not to be found in surgery, and our results with x-ray and radium thus far have been so disappointing as to justify us in concluding that the cure is not to come from that source. As a palliative measure, however, x-ray may give considerable temporary relief, as illustrated in this instance.

This disease has always seemed to be a general or systemic affair and it has frequently been suspected of being related to the anemias. The investigations by the authors strongly hint in that direction and we may hope, with the better understanding of anemias in general which we have developed the past few years, that internal medicine will find the true explanation and the cure.

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C. L. Connor, M. D. (University of California Hospital, San Francisco).—Anything which will add to our information concerning multiple myeloma is a worthwhile contribution. It has been established that this disease is a fairly well defined clinical entity, par-

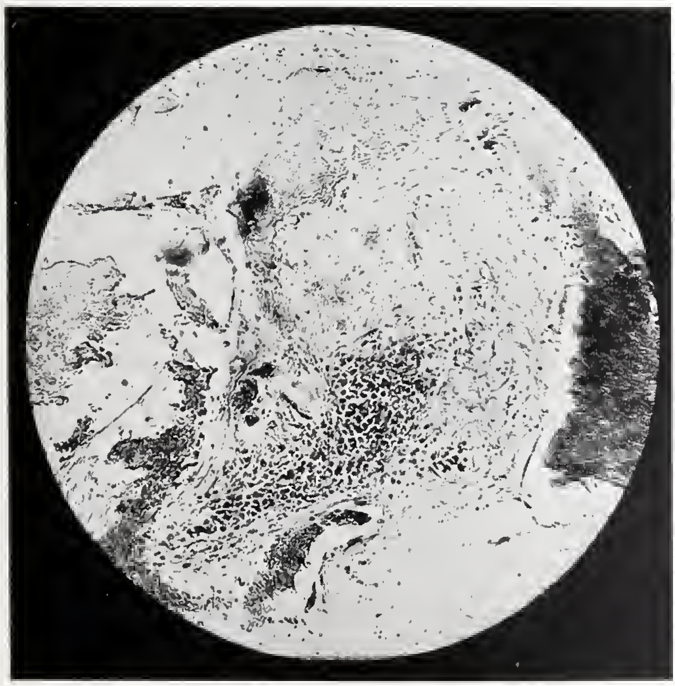

Fig. 8.—Microscopic section of tumor after extensive radiation. Low power.

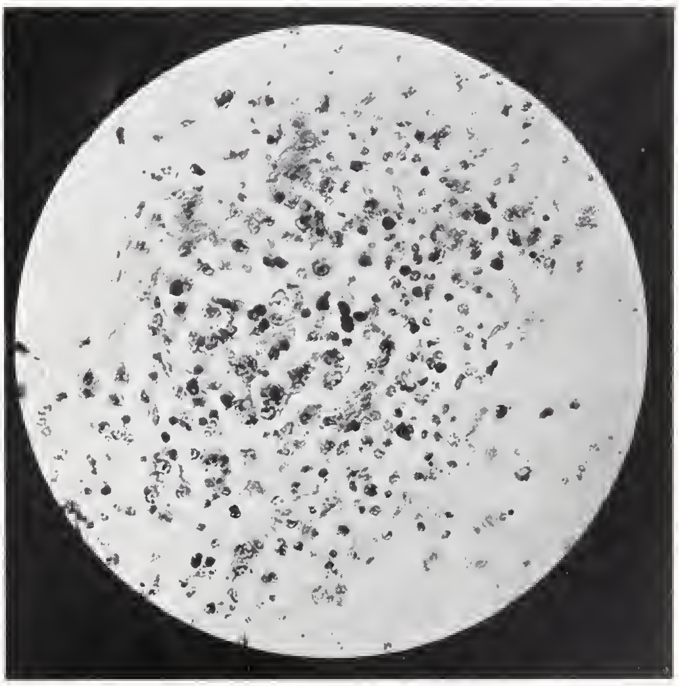

Fig. 9.—Microscopic section of tumor after radiation. High power.

ticularly when it occurs among older people. I should like to have the condition regarded as a more or less specific disease which occurs as a rule after the age of thirty-five. We know, of course, that histologically some of these apparent clinical entities show very diverse pictures. It is not necessary that they be diagnosed definitely as plasmocytomas or myelocytomas or lymphocytomas. It should be sufficient to recognize the undifferentiated character of the cell and to associate this diverse picture with a disease which proceeds in nearly all cases much the same way. I should, therefore, want to remove the so-called myelomas and chloromas which occur in the bones of children and allow these latter to stand as rather special cases which follow no particular course, that might be associated or not with a type of leukemia, and which may be perhaps benefited more by x-ray treatment than the adult type. One may recall that Pepper, a number of years ago, described metastases in the lungs from a multiple myeloma. I would not therefore emphasize, as Doctor Bryan has, the absence of pulmonary metastases as a diagnostic feature.

THE CONDUCT OF NORMAL LABOR*

By JOHN VRUWINK, M. D.
Los Angeles

DISCUSSION *by Thomas F. Wier, M. D., San Diego; Albert V. Pettit, M. D., San Francisco; Louis I. Breitstein, M. D., San Francisco.*

ALIVE mother and baby are minimum requirements of obstetrical art. The optimum standard includes a limited degree of trauma, no morbidity, and only a tolerable amount of pain consistent for the birth of an uninjured baby with unimpaired mentality for later life. Yet, this very common and natural phenomenon of birth is frequently complex and difficult, fraught with many dangers.

Let us concede that the physician today realizes the necessity for surgical asepsis, but we cannot concede the fact that he may be inclined to grow careless. Mortality and morbidity depend on the presence of virulent bacteria, but the condition of the host is also an important and vital factor. Attendants who care for infective conditions will continue to care for the very large majority of labors and they must realize that microscopic organisms in the deeper layer of the skin, gland openings, and the nose and throat are not easily removed by scrubbing or atomizers. They must be convinced that they are potential carriers and must be even more careful than the specialist, who runs from infection as from a fire.

RESPONSIBILITY OF OBSTETRICIAN

Every obstetrician has a responsibility to use certain prophylactic measures to maintain and increase immunity and resistance. First, every patient requires prenatal care to allay fear, to remove foci of infection and further aid resistance by proper food, liquids, rest, and exercise. Second, she requires careful hygienic care during labor, and such is a phase of parturition too frequently neglected. A prodigious amount of energy is expended by the woman in labor, and catabolic changes are inevitable, so that various degrees of acidosis develop, and when given an anesthetic her alkaline reserve is still further reduced. Food, liquids, and rest during labor must be maintained if we wish to reduce morbidity and even mortality, particularly if operative interference becomes necessary. Third, trauma must be limited, for bruised tissue invites and maintains infection. Gross damage is not necessary for incubation purposes, and frequent vaginal and rectal examinations, especially the damage of the cervix by manual dilatation and delivery, or the hurried passage by the fetus through the canal, is more than sufficient. Fourth, each patient requires a true obstetrical diagnosis which includes a complete and general examination. We should have a visual picture of the obstetrical situation at the onset of labor, and then, if we understand the physiology and mechanics of normal labor, we are very likely to know what will happen. A clean vaginal examination to establish such a diagnosis, but not to note progress, outweighs the possibility of introducing infection.

In the aseptic care of our patient, I believe we place too little emphasis on the patient herself, too little study in building and maintaining resistance. During labor, I believe there is too much error due to an incomplete or partial understanding regarding the physiology and mechanics of labor. In the first stage we have recurrent involuntary muscular contractions, the sole aim and object of which are effacement and retraction to the point of complete dilatation. The first stage of labor is merely a dilating stage, such a simple physiological fact, and yet it seems to be a chimerical and utopian fancy to make attendants—including nurses—realize that progress is dilatation, accomplished through involuntary effort. Just why must we forever and ever confuse progress with descent of the presenting part to the point that a number of hours and not the fact of dilatation becomes an indication for cesarean section. Under certain favorable conditions, we may have the synchronous movements of flexion, rotation and descent, but in less favorable conditions, particularly posterior positions with deflection, we most certainly do not have the textbook picture of synchronous action during the period of dilatation.

CARE IN FIRST STAGE OF LABOR

The first stage demands that our attention be focused on rest, liquids, and food. In short labors, they are naturally of less importance. Labors, however, that begin with indefinite irregular pains usually resolve into long tedious labors with a long dilating stage in which hygienic measures are of inestimable value. In any event, one should expect, if there have been no ill-advised attempts to urge the patient beyond physiological limits, to arrive at the end of the first stage with mother and baby in good condition and the supports of the uterus uninjured.

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* Read before the Obstetrics and Gynecology Section of the California Medical Association at the fifty-ninth annual session at Del Monte, April 28 to May 1, 1930.

When a primipara goes into labor, with a head at the inlet, we anticipate trouble. Sixty per cent of such high heads are associated with the occiput posterior positions, others will be due to various degrees of disproportion, malposition, or an assimilation pelvis with a high promontory. A few should have elective section, but if no definite indication is present the physiological and mechanical factors involved are most important. We should be very grateful to find such a high head become engaged in the first stage, but we must remember that dilatation is progress and that flexion descent and internal rotation frequently occur by a special mechanism and only in the second stage.

It is very rare indeed to have the head of a multipara engaged at the onset of labor; in fact, all we expect is that it fit snugly in the inlet. Advancement will occur in the second stage of labor, and in the absence of disproportion this is especially liable to be precipitant in the multipara.

SECOND STAGE OF LABOR

The second stage of labor is frequently hurried, but if not it is illogical to take time too seriously as a sole indication for interference. We must bear in mind the marvelous adaptability of the natural processes of labor and it is reasonable to expect differences in time between the vigorous and the delicate, between large and small heads, and in variations in the size and resistance of the birth canal. Any head may be forced through the canal by injudicious efforts with actual or potential injury, both to mother or fetal brain cells. Vigorous voluntary efforts, such as the use of pullers, the abdominal binder and pituitary extract, should be controlled until molding has become definite and after the head has descended to the midplane. Certainly most multipara should be restrained and all primipara should have their energies directed to conserve and protect their efforts.

When we face the problem of inertia let us be sure it is inertia and not merely a matter of time or too much anesthetic. Inertia necessitates intervention, more frequently by well-applied forceps, occasionally by a most judicious use of pituitary extract, except in the primipara.

During labor the state of the child should be frequently ascertained by auscultation. In the first stage, fetal heart tones rarely give evidence of distress, but during the stage of descent babies' lives have certainly been saved and potential brain injury prevented by timely intervention. Fetal auscultation is even more required if the patient has had some form of analgesia, particularly hypodermic medication, for it is an accepted fact that intra-uterine asphyxia predisposes to cranial injury. The day is present in obstetrics when we must give more consideration to the occurrence of petechial hemorrhages in the brain of the newborn, the factor that makes it undesirable to be the first born. We must give more consideration to the problem of molding and preventing too rapid descent; more consideration to the necessity of rapid adaptation in delivering an after-coming head; and must remember that the premature infant is especially liable to cranial injury and that episiotomy may be indicated in spite of the size of the infant's head.

Episiotomy, before the head completely distends the vulva, aids in conserving the structures of the anterior segment and prevents undue pressure on the head when peculiarly resistant. Personally, I do the median episiotomy unless a short perineal body, or a large head, or operative delivery requires the mediolateral incision. Some may be wedded to only one incision in spite of any and all conditions.

One cannot help but emphasize the fact that cesarean section is a formidable operation to be used only on strict indication. We must come to this conclusion after reading the recent reports from Detroit and New Orleans, and by Thompson in Los Angeles. We must admit Pollock is right when he says there is an uncontrollable mortality in cesarean of three to four per cent.

THIRD STAGE OF LABOR

The third stage of labor has had much attention of late years, yet it may still be maintained that, though the accidents and emergencies of labor carry a definite danger that prenatal care cannot entirely eradicate, the management and conduct of labor does play a most important part on the course of the third stage of labor. The fatigued patient, under an anesthetic, with attempts at expression before separation, is certainly in dire danger of hemorrhage, and consequent lowered resistance and infection. When a patient has been delivered under an anesthetic, I have become more and more convinced that she should be allowed to regain consciousness before expression, and that any repair should be delayed until the placenta has been delivered. Too little emphasis is placed on the probable trauma produced by forceful manipulation of the uterus, particularly when relaxed, as it may be under the influence of the anesthetic. To relieve this relaxation and to save blood, so important in the puerperium and the consequent well-being of our patients, it is rather generally conceded that one cubic centimeter of pituitary extract is of inestimable value when given at the completion of the second stage. In the presence of undue hemorrhage, do not forget that lifting up the uterus and making pressure over the pubis, thus compressing the vessels, may be far more effective than pushing down on the uterus and massage. If this maneuver with the patient out of her anesthetic does not control bleeding, in the absence of cervical tears, the uterus must be packed firmly with gauze and measures taken to prevent shock.

ANALGESIA AND ANESTHESIA

In discussing the management of normal labor, it is inevitable that we must discuss analgesia and anesthesia. National lay magazines have taken up the hue and cry and we are even now in the midst of lay publicity such as characterized the twilight sleep propaganda of fifteen years ago. Certainly our profession is eager to relieve pain, but we will always refuse to do so at the expense of the unborn child; and it is not an idle fancy that prompted practically all obstetricians to discontinue twilight sleep. Early in the first stage of labor, especially with delayed dilatation, rest is of vital importance, and a single dose of pantopon or morphin with or without scopolamin is a recognized obstetrical aid. Repeated dosage of scopolamin, however, is another matter. If we could, with machine precision, give just enough and never too much, if we never interfered with muscular control, if we did not produce intra-uterine asphyxia, what a blessing hypodermic medication would become, for it is such a simple method of procedure.

Analgesia is a prenatal problem as well as a problem of labor. Every patient should have the benefit of prenatal care to dispel fear, especially the horrible tales of neurotic women. She should approach labor with assurance that she can have aid when she feels that she requires aid. Women who enter hospitals or call for their physician at home only when definitely in labor frequently arrive at or near the second stage without such a request, and then gas or ether may be given. There are women who demand aid early, frequently too early. There are women, too, who demand cesarean section, or version and extraction. In other words, we must individualize our patients. Most primipara will probably request analgesia. One of the barbital products may with benefit be given a patient to allay her reasonable apprehension, particularly if she goes to a hospital. When dilatation is sufficiently advanced, a single hypodermic of pantopon one-third grain and scopolamin 1/200 may be given, but the method with the least objection and best results is that given to women in labor by Gwathmey. The work of Gwathmey was a painstaking, skillful, intelligent, scientific investigation conducted over a long period of time with many women. It is a deplorable fact that tyros in anesthesia are now attempting to improve on that technique. The cornerstone of his investigation was safety for the child and a minimum of interference with the physiology of labor. Safety for mother and child, and maximum success will be obtained in painstaking hands only by a strict adherence to the method as described by him. When one endeavors to improve this technique by prescribing initial doses of morphin and scopolamin or tries to augment the rectal injection by more powerful medicaments, complications dangerous to the child or interference to the physiology of labor will inevitably follow.

As the head passes through the cervix and proceeds on its downward course some inhalation analgesia is surely indicated. Nitrous oxid and oxygen demand a skilled anesthetist, and is in such hands effective for safety and relieving pain. When gas is not available, ether is the inhalation anesthetic of choice. Ether is to be preferred, particularly in too rapid labor when restraint is advisable. A trained anesthetist only may safely combine nitrous oxid, oxygen, and ether. Chloroform, in the hands of a few, still claims recognition, but the margin of safety is small and it definitely increases acidosis, which is not advisable after long labors or with toxic patients.

Nitrous oxid with a few has fallen into disrepute, but such ill favor is due to faulty mixtures rather than to the method. Interrupted nitrous oxid demands 10 per cent or more of oxygen; less may produce intra-uterine asphyxia.

As the head passes over the perineum, analgesia approaches anesthesia. With anesthesia we confront the problem of complete muscular relaxation with increased hemorrhage and an increased tendency to acidosis, both vital factors in the problem of asepsis, as measured by the resistance of the mother. The anesthetic should be removed as soon as the head is born. The delivery of the shoulders is notoriously hurried, and undue traction and torsion may be entirely avoided by unhurried carefulness.

SUMMARY

Maternal morbidity and mortality depends on the aseptic management of labor. Aseptic management necessitates due consideration of prenatal care, the hygiene of parturition, and personal surgical cleanliness. The first stage of labor is characterized by simple dilatation by involuntary efforts and the second stage of labor by flexion, internal rotation, and descent aided by voluntary efforts. It is not necessary to have the synchronous cardinal movements, especially in posterior positions, until after the completion of dilatation, and all forceful voluntary efforts should be controlled until molding has taken place. More consideration must be given to avoid intra-uterine asphyxia, and forceful completion of the second stage, so as to avoid potential fetal brain cell damage. Analgesia and anesthesia have a definite place in labor, but should be selected so as to avoid intra-uterine asphyxia. The third stage of labor demands conservation of blood and a minimum of trauma. Mothers have a right to demand uninjured babies, of unimpaired mentality.

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DISCUSSION

Thomas F. Wier, M. D. (911 Medico-Dental Building, San Diego).—The value of Doctor Vruwink's paper lies in the emphasis of a successful routine in conducting labor with as little pain as possible to the mother, and with safety to the infant.

What may be termed a normal labor? Doctor Vruwink did not define this in his paper. It seems to me that there are relatively few primiparous patients having a normal labor, one that is free from laceration, episiotomy, or forceps assistance. Of course, if these are not pathological conditions the field of a normal labor becomes broader and the timely application of an outlet forceps with an episiotomy under gas anesthesia saves hours of distress to the mother, protects the soft parts, and I am sure if it were done more frequently, would often save the life of the infant.

It has been my practice during the past five or six years to give one cubic centimeter pituitrin by hypodermic immediately following the delivery of the infant. This, I am sure, hastens the third stage of labor, especially if an anesthetic has been given; it also controls the excessive amount of flow. However, it is well to emphasize that a too hasty delivery of the placenta without pituitrin is a frequent cause of postpartum hemorrhage.

I am very glad to hear Doctor Vruwink condemning the press advertisement of fads which claim to produce labor without pain. Twilight sleep and the Gwathmey method in the hands of the trained, who have sufficient help constantly to watch the patient, will give much better results than in the hands of those who do only an occasional delivery, and yet these procedures prolong labor, increase the use of difficult forceps and cause more frequent postpartum hemorrhage with a higher rate of infant mortality.

I obtain good results from scopolamin 1/200 grain with pantopon one-sixth grain and magnesium sulphate during the first stage, repeating the dosage of scopolamin with magnesium sulphate and using ethylene gas for the anesthesia during delivery.

Some objections are given to the use of ethylene on account of its explosiveness. If we compare with an equal number of ether anesthetics, ethylene will be found to be no more dangerous when proper precautions are taken. Patients are under the effect more quickly and out more quickly. The infant is never, in my experience, partially asphyxiated; contractions are less influenced than with ether, chloroform or nitrous oxid analgesia.

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Albert V. Pettit, M. D. (2000 Van Ness Avenue, San Francisco).—Doctor Vruwink is to be congratulated upon the presentation of a paper on such an important but rarely considered subject.

In the obstetrical literature and obstetrical teaching of our advanced and postgraduate students, far too much stress is laid upon the care or treatment of the rare, spectacular or pathological conditions of obstetrics. The proper conduct of normal pregnancy and labor is the essence of obstetrical art and constitutes the greatest factor in avoiding the majority of obstetrical accidents to the child as well as the mother.

Doctor Vruwink's explanation of just what constitutes progress during the course of labor cannot be overemphasized. With this clearly before us, any delay, even in this mechanism, may be discounted as regards time in the absence of fatigue signs. There is no question in my mind concerning the virtues of Gwathmey obstetrical analgesia, for although certain parts of the mechanics of labor may be slightly prolonged, much is gained in relief of maternal fatigue and in the softening of resistant tissues.

It is true that obstetrical patients have to be individualized just as all patients in other divisions of medicine must be, but I hardly think individualization should be carried to the extent of taking advice from patients in regard to their mode of delivery.

It is to be hoped that articles of this nature on normal obstetrics will appear more often in our literature.

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Louis I. Breitstein, M. D. (350 Post Street, San Francisco).—Doctor Vruwink's paper is very important in that it emphasizes our need for a better understanding of the fundamental principles of normal obstetrics. Too often in the busy practice of a physician the normal physiology of the different stages of labor is forgotten, and in our endeavor to relieve pain or shorten labor we give aid which, as far as mother and baby are concerned, would be better had it been omitted. In the great majority of births, end results are best if the normal mechanism of labor is allowed to go on unhampered. If the profession would only follow out the plan Doctor Vruwink has described, birth injuries would be reduced to a minimum and maternal and infantile morbidity would be prevented.

GRADENIGO'S SYNDROME AND BRAIN ABSCESS*

SECONDARY TO OTITIS MEDIA—DIFFERENTIAL DIAGNOSIS

REPORT OF CASES

By Leo J. Adelstein, M. D.
Los Angeles

Discussion *by I. Leon Meyers, M. D., Los Angeles; Eugene R. Lewis, M. D., Los Angeles.*

Among the problems presented by the complications of otitis media, one of the most baffling to the neurosurgeon or otologist is the decision between a localized meningitis and a true brain abscess. In the former, while the infection has presumably extended to the meninges, the process is well walled off, the exudate is mainly serous, the treatment calls for mastoid surgery alone, and the prognosis is favorable. In the case of a true brain abscess, a condition that is often not so readily recognized, there is actual involvement and destruction of brain tissue, the treatment calls for drastic surgery, and the prognosis even in the best of hands seldom exceeds 50 per cent of recoveries.

I.—GRADENIGO'S SYNDROME

We wish to emphasize here the clinical entity described by Gradenigo[1] in 1904. This syndrome is a fairly typical and characteristic triad composed of: (1) an acute otitis media, (2) a sixth cranial nerve palsy, and (3) pain in the eye on the affected side. The patient subjectively complains of double vision, and pain of a boring nature, in the eye on the side affected; objectively the patient presents an acute suppurative otitis media, and an internal strabismus on the affected side (a sixth nerve palsy).

PATHOLOGY OF GRADENIGO'S SYNDROME

The pathological basis of the Gradenigo's syndrome[2] consists of a circumscribed serous meningitis, originating from an involvement of the cells in the petrous pyramid. In the cases where the mastoid is definitely involved, the petrous tip is affected as a result of direct extension of the suppurative process. The infection produces an osteomyelitis of the petrous bone with extension to the overlying dura. The serous meningitis which may follow this process exerts pressure upon the adjacent sixth nerve, as it lies upon the superior surface of the petrous portion of the mastoid. In the cases presenting no clinical evidence of mastoid involvement, the course of the infection from the middle ear to the tip of the petrous bone may be:

1. From the tympanum below the labyrinth and internal auditory meatus to the petrous tip; or

2. By way of the carotid canal, due to erosion of the bone, or of the tympanic foramina which transmit carotid branches of the tympanic plexus; or by the

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* From the Neurosurgical, and Ear, Nose, and Throat services of the Los Angeles County General Hospital.

* Read before the Eye and Ear Section of the Los Angeles County Medical Association, May 13, 1929.

3. Suppuration following through a layer of cells which extend along the eustachian tube from the middle ear to the petrous portion of the mastoid.

In the two cases of Gradenigo's syndrome presented here, of patients at the Los Angeles General Hospital, the mastoid was involved in each case, but with few clinical findings to corroborate the diagnosis.

REPORT OF CASES

Case 1.—L. A. G. H. No. 45-616. James G., a three-year-old white male child, was admitted January 11, 1929, as a patient with possible encephalitis, or brain abscess secondary to otitis media. The history of the present illness is that the child was perfectly well until the onset two weeks ago, which was initiated by a period of restlessness, fever, and crying. The next day the patient did not recognize the parents. The family physician opened the right eardrum, telling the parents "the child had an ear abscess." The third day the child had a convulsion in which there were twitchings of the facial and neck muscles, and rolling of the eyes. The same day the child was brought to a private hospital as a case of possible meningitis or encephalitis. While in the hospital the patient's condition remained unchanged. The parents were told that "the spinal fluid examination was negative and that no treatment was effective." However, he was given three injections of whole blood intramuscularly. The patient was next seen by the City Health Department, which ordered his removal to the service of contagious diseases of the Los Angeles County General Hospital. This was done fourteen days after the onset of the illness.

Physical examination revealed a well-nourished male child, extremely restless and delirious. Temperature was 102 degrees F., pulse 106, respiration 30. The right eardrum was injected and bulging and was opened, with resultant serosanguinous exudate draining freely. Examination of the chest and abdomen revealed nothing of importance. The extremities were spastic.

Neurological Examination.—Dr. I. L. Meyers—Revealed a complete paralysis of the right sixth cranial nerve and some slight weakness of the right seventh nerve. The fundi showed congestion, but no definite papillitis. The other cranial nerves were normal. Both lower extremities were spastic, but no pathological reflexes were obtained. Diagnostic impression: A localized meningitis, Gradenigo's syndrome. A right mastoidectomy was advised and further observation for the development of a possible brain abscess.

Laboratory Findings.—The spinal fluid examination revealed a clear colorless fluid, under normal pressure, with no increase in the globulin content, and a cell count of 300 lymphocytes. Sugar reduction took place with three drops of spinal fluid to five cubic centimeters of Haines' solution. The white blood count was 13,100, with 72 per cent polymorphonuclears. The urinalysis was negative for albumin, sugar, cells, or organisms. The x-ray pictures of the mastoids were unsatisfactory, due to the patient's restlessness.

Operative Notes.—On January 12, 1929, a right, simple mastoidectomy was done by Dr. J. H. Hooval. The lateral sinus plate was found intact and was not removed. The dural plate appeared unaffected and was not opened. The septa were soft and the mastoid was filled with serous fluid. A smear from the right mastoid revealed many pus cells and a few Gram-positive cocci. Culture later revealed no growth. The patient made a slow but uneventful recovery, with a complete clearing up of the right sixth nerve involvement.

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Case 2.—L. A. G. H. No. 52-209. Martha L., a colored female child of eleven years, was admitted March 2, 1929, as a patient with right purulent otitis media, with a possible brain abscess. The history of the present illness is that the patient caught cold three weeks before and at the same time her right ear began to drain. Three days previous to admittance to hospital she complained of "seeing double," and also had pain in the right eye. The past history contained no evidence of any previous ear trouble.

Physical and Neurological Findings.—Dr. I. L. Meyers—The tonsils were enlarged and septic and the right ear was draining freely. There was a complete paralysis of the right sixth cranial nerve. Other cranial nerves were found to be normal. The fundi were clear and showed no evidence of pressure. Patient complained constantly of double vision. Reflexes normal. There was no mastoid tenderness. Temperature was 100 degrees F., pulse 80. The diagnostic impression was a localized meningitis (Gradenigo's syndrome) secondary to a right mastoiditis. Since there were no signs of meningeal irritation, such as cervical rigidity or a Kernig, it was not thought advisable or necessary to do a lumbar puncture.

Laboratory Findings.—The white count was 11,500, with 80 per cent polymorphonuclears. The urinalysis revealed an occasional leukocyte. The x-ray pictures of both mastoids showed a clear left mastoid, while the right was obscure with areas of missing trabeculae.

Operative Notes.—On March 6, 1929, a right, simple mastoidectomy was performed by Dr. F. H. Brandt, uncovering a diploic type of mastoid. Pus was found in the antrum, with necrosis about the tip, mastoid antrum, and zygomatic area. The inner cranial table was necrotic above the mastoid and extending forward to the region above the tegmen. The mastoidectomy was performed with exposure of the dura above the mastoid, and with removal of necrotic cells in the region of the zygoma. The patient made an uneventful recovery, and was discharged from the hospital March 20, 1929, with the mastoid wound well healed and the sixth nerve involvement completely cleared.

II.—BRAIN ABSCESS

The picture of a brain abscess secondary to otitis media, while many times not a clear-cut entity, presents sufficient evidence to permit a diagnosis.[3] The factors to be considered are:

1. Those that indicate or suggest a suppurative process within the cranial cavity and are looked upon as *the cardinal signs and symptoms of increasing intracranial pressure,* viz., headache, vomiting, drowsiness, slow pulse, and at times convulsions. These findings are of extreme importance and invariably are present in a case of a suppurative intracranial process.

2. The history of ear trouble, recent or remote.[4] [5] The patient may present an otitis media with a profuse discharge, or merely the history of an attack of otitis several weeks previously with a recently healed tympanum. The absence of a discharge and a recently healed drum do not rule out a potential source of infection.

3. The localizing signs of cerebral involvement:

(*a*) Nystagmus. A spontaneous horizontal nystagmus is found usually with lesions of the posterior fossa. Occasionally a modified form of horizontal nystagmus is to be found with lesions of the temporal lobe; however, lesions of the temporal lobe do not give rise to nystagmus unless they are so extensive as to involve the crura cerebri, the reason being that nystagmus is dependent on interference with the reflex arc of the vestibular system, the center of which is in the nuclei of the ocular nerves in the mid-brain and pons.[6] A spontaneous vertical nystagmus speaks for pressure upon the brain stem and localizes the lesion to the posterior fossa.

(*b*) Reflexes. The usual state of the reflexes is that of hyperactivity on the opposite side of the lesion, frequently with a Babinski and ankle clonus. At times in lesions of the posterior fossa, the reflexes may be hyperactive with a Babinski on the same side as the lesion, probably due to pressure upon the homolateral pyramidal tract by the forcing of the pyramid against the bony ring of the foramen magnum.

(*c*) Hemianopsia. A homonymous loss of vision speaks for involvement of the optic tracts posterior to the chiasm and localizes the lesion to the temporal or occipital lobes.

(*d*) Astereognosis. The stereognostic sense appears to be the function of the parietal lobes, and the picture of a patient unable to name an object placed in the hand while the eyes are closed, localizes the lesion rather definitely to the above area.

(*e*) The fundus examination may reveal a moderate hyperemia and increased tortuosity of the vessels, up to an actual neuritis. The elevation of the disks is never great, as in a case of neoplasm, since a brain abscess is a destructive lesion with replacement rather than displacement of tissue.

4. The laboratory findings:

(*a*) The white count is usually elevated from 15-25000, with a high polymorphonuclear ratio.

(*b*) The spinal fluid examination shows: an increased pressure, usually above 180 millimeters of water; an increase in the globulin content, indicating tissue destruction; a pleocytosis of 50 to 180 lymphocytes; and a normal or slightly increased sugar content.

(*c*) The skiagraphs of the skull and mastoids are of value if evidence such as erosion, clouding of the mastoids, or areas of missing trabeculae may be seen. However, the x-ray findings are not always conclusive, and a negative film or series of films are of no value.

5. The incidence. Seventy per cent of brain abscesses secondary to otitis media are found in the temporal lobe, 30 per cent in the cerebellum. However, one should never allow statistics to be more than merely suggestive in making a localization of brain abscess.

6. The temperature range. Last, but not least, is a consideration of the subnormal temperature so often associated with the picture of brain abscess. The usual finding is a temperature ranging from 96.5 to 98 degrees F. Contrary to all expectations, encapsulated pus in the brain does not produce an elevation in temperature. The explanation for this has never been made, but it is probably due to some derangement of the heat-regulating mechanism. This is a fact to be emphasized, since one hears so often that the patient's condition cannot be serious because there is no elevation of temperature; in fact, it is subnormal![7]

REPORT OF CASE

Case 1.—L. A. G. H. No. 266-775. Marjorie W., a white female child of six years, was admitted April 4, 1927, from the out-patient department, eye clinic, for observation. The history of the present illness began six weeks ago with the patient developing a right otitis media which drained freely for six or seven days. She then had the measles and made an uneventful recovery. Five days before she had a severe headache, became very drowsy, and vomited several times. Her vision during previous two weeks had become so impaired that the family brought her to the out-patient eye clinic for a tentative refraction. While being examined she had a generalized convulsion, and was sent immediately to the ward for further observation.

Physical and Neurological Examination.—Pulse, 64; temperature, 97.6 degrees F. The right ear showed a healed tympanum with a recent scar; no discharge. The left ear appeared to be normal. The right pupil was wider than the left, and the fundi showed marked congestion with increased tortuosity of the vessels, the changes being greater on the right side. The knee-jerk and triceps reflex were more active on the left than on the right. There was no Babinski, ankle clonus, Gordon or Oppenheim reflex. There was a suggestive left homonymous hemianopsia, but not conclusive. No evidence of any astereognosis.

Laboratory Findings.—The white count was 26,000, 70 per cent polymorphonuclears. The examination of the spinal fluid revealed a clear, colorless fluid under markedly increased pressure, with an increased globulin content, a normal sugar content, and cell count of 180 lymphocytes. The skiagraphs of the skull and both mastoids were negative for any destructive process. With the above history and findings in mind, a tentative diagnosis of a right temporal lobe abscess was made and exploration advised.

Operative Notes and Course.—Dr. C. W. Rand—On April 4, 1927, using ether anesthesia, the right temporal lobe was explored through a subtemporal approach. A large brain abscess was located and drained with a No. 16 French catheter. The patient had a rather stormy time, postoperatively, for the first week, and then went on to an uneventful recovery. The drain extruded itself May 15, 1927. The patient was discharged to her home the following week. The follow-up record shows that the child has done well since the operation, and is enjoying a normal routine both at home and at school.

SUMMARY

Gradenigo's Syndrome.—The clinical picture of Gradenigo's syndrome is an entity readily recognized, and is composed of:

1. An acute otitis media.
2. Pain in the eye or over the frontotemporal area on the side affected.
3. A sixth cranial nerve palsy on the same side.

The treatment calls for an investigation of the mastoid and a mastoidectomy[8] even in the face of an inconclusive x-ray picture.

Brain Abscess.—The symptom complex in the case of a brain abscess secondary to otitis media is composed of:

1. The signs and symptoms of increasing intracranial pressure, viz., headache, vomiting, drowsiness, slow pulse, and convulsions.
2. The history of ear trouble, recent or remote.
3. A subnormal temperature.
4. A high white count.
5. The localizing signs of cerebral involvement, viz., hemianopsia, astereognosis, nystagmus, and the status of the reflexes.

The treatment calls for an investigation of the ear and the mastoid on the side affected, plus repeated neurologic examinations, and, if indicated, a careful surgical approach and exploration of the temporal or cerebellar lobe involved. A negative mastoid *per se* does not rule out intracranial pathology since, particularly in children, infection may travel from the middle ear to the brain with little or no mastoid involvement.

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DISCUSSION

I. Leon Meyers, M. D. (1930 Wilshire Boulevard, Los Angeles).—I should like to add to the presentation by Doctor Adelstein a point that is frequently of much value in the diagnosis of brain abscess.

I am referring to the characteristic facial expression—an expression of distress, of lack of vitality, with a pallor bordering on jaundice which a patient with a brain abscess, especially the chronic variety, presents. This facial expression is, it may be presumed, a manifestation of the toxicity and the lowered metabolism of the patient which, as mentioned by Doctor Adelstein, are responsible for his subnormal temperature. It may not be present in the patient with an acute abscess and an associated meningitis, in which case the patient is quite alert and his face may be flushed. It is, however, very striking in the patient who has a brain abscess which, as a walled-off process, has supposedly been dormant for some time.

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Eugene R. Lewis, M. D. (727 West Seventh Street, Los Angeles).—The differentiation between otitic brain abscess and circumscribed meningitis is certainly of importance from many standpoints. Whether Gradenigo's syndrome is manifested or not, the findings and symptoms as presented in this paper permit of no great confusion between the clinical indications of the symptom groups characterizing these two conditions. Unfortunately the typical combination of symptoms is not always strictly adhered to; it is often necessary to solve the same kind of riddle as "what has web feet, feathers, and barks like a dog?" The diagnostician is compelled to decide what "duck" is the answer, and that "barks like a dog" was added to make it more difficult. He must elicit very carefully the cardinal points from history, symptoms and examination and keep these clearly in mind, ignoring what seems "added to make it more difficult."

There is one thing that stands out as of particular importance respecting otitic brain abscess; there is no advantage in hurrying a surgical attack, and there are definite advantages in going slow. Many diagnoses of brain abscess have proved erroneous; by restraining the impulse to early surgery these cases are permitted to come out in their true colors. Thorough organization of exudate around a brain abscess and subsidence of much or even all of the tympanomastoid purulence during persistent application of systemic and local measures over an adequate period of surgical delay, are some of the rewards of making haste slowly. Too much emphasis cannot be put upon the undismayed continuous use of all possible systemic and local conservative measures over long preoperative periods in every case of suspected intracranial extension of tympano-mastoid infection.

In my opinion the prognosis of cases handled in this manner is distinctly bettered, as to both nonoperative and operative recovery.

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Doctor Adelstein (Closing).—Gradenigo's syndrome or localized meningitis may well be looked upon as a border-line condition. The infection has found its way to the meninges and the question is, will it resolve spontaneously or go on to further intracranial invasion with formation of a true brain abscess? We believe that the patient is given the better chance for an early uncomplicated recovery if a mastoidectomy is done in these cases, even if the x-ray evidence is not entirely conclusive. There have been cases of spontaneous recovery of Gradenigo's syndrome; however, the danger of delay is great, and since mastoidectomy removes at once the original focus of infection, we believe that the operation is perhaps, in the long run, the more conservative treatment.

PYOGENIC EPIDIDYMITIS—ITS TREATMENT*

By Henry A. R. Kreutzmann, M. D.
San Francisco

Discussion *by Charles P. Mathé, M. D., San Francisco; James Potter, M. D., United States Training Station, Goat Island, San Francisco.*

The epididymitis referred to throughout this paper is of the nongonorrheal, nontuberculous type.

PATHOLOGY

This condition is not uncommon. Some authors claim that it occurs in from 20 to 30 per cent of patients having an infection of the bladder, posterior urethra, seminal vesicles, or prostate. My experience also has been that it occurs all too frequently in spite of the greatest gentleness in instrumentation.

The route of infection is by way of the lumen of the vas deferens. This has been proved conclusively since ligation of the vas, preliminary to prostatectomy, has been instituted as a routine procedure. However, the method by which bacteria gain access to the ejaculatory duct is still in doubt. Lommel found that on traumatizing the colliculus seminalis, the contents of the posterior urethra can pass through the ejaculatory duct into the seminal vesicle or the vas, whereas this never occurred when the verumontaine was intact. He concluded that the organisms were sucked out of the posterior urethra.

Herbst believes that when the ejaculatory duct becomes blocked infectious material from the seminal vesicle is unable to enter the urethra. It then passes down the vas to the epididymis, setting up an inflammation in that structure.

Belfield noted on three different occasions while performing a vasotomy the escape of urine through the incision. This occurred when a strong desire to urinate was resisted by the patient. He feels that the retrograde passage of urine into the seminal duct may be the not infrequent cause of recurrent epididymitis.

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* Read before the Urology Section of the California Medical Association at the fifty-eighth annual session at Coronado, May 6-9, 1929.

Pelouze believes that greatly increasing the intravesical or urethral pressure may force infected material into the seminal vesicle. Pressure on this organ may then direct the bacteria into the vas deferens.

Even though the method by which the infection reaches the upper part of the vas is still in doubt, we do know that involvement cannot occur unless there is an infection either in the posterior urethra or seminal vesicle.

It is surprising that the pathological sequence of this condition is still unsettled. Most experimenters believe that in the early stages the organisms remain within the lumen of the globus minor, where they form localized abscesses.

Rolnick, after injecting pyogenic organisms into the vas, made sections through the entire testicle one to eight days afterward. He concluded from his studies that within a few hours after the bacteria had reached the tail of the epididymis they penetrate between the epithelium, involve the wall and extend to the interstitial and peritubular tissues there to set up the inflammatory process. He found that where large abscesses had formed they were interstitial and had pushed the tubule aside or had compressed it.

At the present time it is still an open question whether the organisms and the abscesses in the early stages of the infection are found within the lumen or in the peritubular spaces. That the infectious material cannot penetrate farther than the globus minor has been shown conclusively by injecting bacteria and opaque solutions into the vas. This is due to the peculiar formation of the loops of the body of the epididymis. In severe infections, if the remainder of the structure is involved, it is by way of the peritubular lymphatics.

The predisposing cause of epididymitis in man is an infection of the urine, the posterior urethra, the seminal vesicles or prostate. If, on top of this, we place the additional burden of sexual excesses, excessive drinking, or rough manipulations by the physician, an infection of the epididymis is not at all unlikely.

In order to reduce the possibility of such a condition we must first recognize the presence of the underlying causes. Our aim should be to remove the infection in the various organs. If the patient insists on continuing his mode of living, he will then be in less danger of suffering the consequences.

RESPONSIBILITY OF PHYSICIAN

The physician, on the other hand, should realize his power to produce or prevent an acute inflammation. Nothing is more humiliating to me than to have a patient return, after the passage of sounds or a cystoscope, with an acute epididymitis.

Gentleness in instrumentation is not always a sufficient guarantee against the production of this complication. Cystoscopic procedures, especially fulguration about the veru, when carried out in the presence of a chronic infection of the posterior urethra or prostate may readily set up an epididymitis. This fact has received very little recognition in the past. By the proper course of treatment we can materially aid in avoiding this complication.

For the past few years, wherever possible, I have studiously avoided inserting any metal instrument into the posterior urethra without first reducing or entirely removing whatever infection may be present. The results have been most gratifying. In the few cases where an epididymitis has developed, it has been of such a mild character that the patients were able to be up and about in a few days with only moderate induration of the globus minor.

There are, unfortunately, a number of instances in which it is impossible to postpone the passage of a cystoscope because of the acute condition of the upper urinary tract. Here one will occasionally have a severe epididymitis, and I know of no way of preventing it.

TREATMENT

In the treatment of this condition we must realize that at times we are dealing with a very virulent organism and the character of the infection may be entirely different from that produced by the gonococcus. Fortunately, however, most of the cases follow the same course as that of gonorrheal epididymitis and the same mode of treatment can be instituted. This consists of rest in bed with elevation of the scrotum. After trying every method, I have found that the suspensory described by Campbell and used at the Bellevue Hospital gives the best result and is most comfortable to the patient.

One gram of calcium chlorid, intravenously, given daily for three to five injections may in the mild cases hasten resolution. Either hot or cold local applications are also of benefit.

With this expectant treatment, my patients have been confined to bed on an average of ten days. Some authors advise immediate epididymotomy, claiming that less damage is done to the tissues involved and that the patients are transformed into ambulatory cases within two or three days. It has been my experience that even after epididymotomy the inflammation does not subside rapidly enough for the patient to get about for a number of days and that no benefit is gained by early operation.

Operative Indications.—The great problem that confronts us is when to operate. To determine this it is best to divide the patients into two classes: (1) those with an acute infection of the genito-urinary tract, and (2) patients with chronic infections.

In those instances where an epididymitis occurs following an acute pyelitis or cystitis, the patient has very little resistance to the invading organism and its virulence is therefore great. Here early operation is indicated to prevent the formation of large abscesses and possible involvement of the testicle itself.

Where there is a chronic prostatitis or seminal vesiculitis, we may assume that the bodily resistance will be able to take care of the new invasion and, therefore, nonoperative procedures may be carried out. Of course, there are exceptions to this statement, but as a general rule it is worth considering.

After operation has been decided upon, the question arises whether one should simply drain the epididymis or remove it. In these cases one cannot be guided by analogous examples of gonococcal infection. We are dealing with an organism virulent enough to overcome the resistive powers of the tissues. I feel that if the patient is so ill as to necessitate an operation, then removal of the epididymis should be performed. Destruction of the tubules has already taken place and it is not a question of preventing sterility, but of stopping the spread of the infection.

In some of the severe early cases I have noted on needling the globus major and the upper pole of the testicle, serous fluid oozing out of the puncture wounds. This to me indicates early involvement of the entire epididymis and testes. Alleviation can only be obtained by removing the infected region en masse.

Needling or incising the globus minor, as is done when the gonococcus is the invading organism, is not advisable.

The purpose of epididymotomy is to produce as little trauma as possible in order to prevent sterility. In these nongonorrheal cases, this operation merely causes the abscesses to coalesce, with great destruction of tissue and long-continued drainage of pus. As a result the object of the operation, namely, prevention of sterility, will not be attained.

SUMMARY

In summarizing my observations, I conclude that:

1. The majority of cases of epididymitis can be prevented if the foci of infection are eradicated before instrumentation is performed.
2. In patients with chronic infections of the genito-urinary tract, the expectant treatment of epididymitis should be the rule.
3. When an operation is performed, the epididymis should be removed.

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DISCUSSION

Charles P. Mathé, M. D. (760 Market Street, San Francisco).—I have been very much interested in the operation for epididymitis. In treating acute epididymitis it has been our custom to employ the intravenous injection of calcium with glucose. If no relief is obtained from its use in a reasonable length of time, operation is contemplated. It has been my good fortune to have often assisted Dr. L. Bazet, the first surgeon to perform the operation of epididymotomy in the sense of draining pus accumulated within the epididymis. The results were excellent in the fact that the patients' symptoms rapidly subsided with drainage. In the past it has been our custom to remove tuberculous epididymi, and to drain those infected by the gonococcus and the pus-producing organisms. I am glad to see that Doctor Kreutzmann employs epididymectomy in place of simple drainage. It seems to me that this would be the operation of choice in the recurrent type of epididymitis. In the acute fulminating type, however, characterized by huge enlargement of the epididymis, inflammatory hydrocele and marked congestion of the surrounding tissues, simple epididymotomy is the safest procedure and gives excellent results.

James Potter, M. D., (United States Training Station, Goat Island, San Francisco).—Nonvenereal epididymitis developing in a man who is in the naval service is a big question. The men who develop venereal epididymitis and require admission to the sick list lose pay while incapacitated. Naturally, it is difficult for us to obtain an unbiased history, and most cases are considered to be of venereal origin. In regard to treatment, I believe that the injection of nonspecific foreign protein in conjunction with calcium chlorid is almost a specific. In addition, the exposure of the swollen testicle to an infra-red light from thirty to forty minutes each day will markedly decrease the number of sick days.

DERMATOLOGY FOR NURSES*

By Ernest Dwight Chipman, M. D.
San Francisco

Discussion *by Thomas J. Clark, M. D., Oakland; Harry E. Alderson, M. D., San Francisco.*

In a paper read before this section one year ago I ventured the assertion that less than 10 per cent of the nurses we meet are capable of applying a satisfactory dermatologic dressing. As a result of the suggestion that some one be delegated to deal with this question at this meeting our chairman invited me to undertake the task.

Now it takes no exhaustive study to determine why nurses are not prepared adequately to care for our cases. There are two reasons. Taken by and large, probably a smaller percentage of dermatologic cases require nursing care than those of any other specialty. So lack of experience is one reason. The second reason is a lack of interested teaching to nurses in the training schools. While the first reason is not within our control we can and should do our part in teaching the nurses what we expect of them.

STATE BOARD REQUIREMENTS IN TEACHING OF NURSES

The teaching of nurses is regulated largely by the requirements of the State Board. In preparing a synopsis of this paper I referred to the State Board requirements as calling for a knowledge of purpura and pellagra and not for any special ability to put on an acceptable dermatologic dressing. I since learn that these are the requirements of the National League of Nursing Education.

TEACHING REQUIREMENTS OF NATIONAL LEAGUE OF NURSING EDUCATION

The outline from the standard curriculum of this League is much more comprehensive in its scope than that of the California State Board. Its program is divided into ten parts and includes much that is given under the head of medicine and surgery in this state; for example, the acute exanthemata and carcinoma. It also includes syphilis, tuberculosis, purpura, pellagra and myxedema.

Under this plan fifteen units are required and if, for example, six lectures are given by a dermatologist nine other units are given by an instructor so as to make up the total.

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* Read before the Dermatology and Syphilology Section of the California Medical Association at the fifty-ninth annual session at Del Monte, April 28 to May 1, 1930.

"The object of the course" as presented in this outline, "should be to give the student a necessary knowledge of the more common diseases of the skin with which she will come in contact in her general nursing and in school nursing; also to enable her to understand the ordinary methods of treatment and to be able to protect herself and others."

This sounds much less pretentious than the schedule. It seems to me that after all what we should seek to teach nurses is simply what we expect them to know when we meet them on cases plus a practical knowledge of the diseases we may fairly expect them to recognize in school work.

On this basis, it would seem wise to emphasize such topics as impetigo, pediculosis, scabies, ringworm, etc., and eliminate all references to such entities as pellagra, purpura and acromegaly.

The schedule of the State Board calls for "lectures by physicians; classes, clinics, demonstrations by instructors of students in the structure and function of the skin, hygiene of the skin, common skin diseases, their treatment, nursing care and general precautions." This sounds ideal, but I believe that it presupposes a knowledge and a course of training by the instructors of nurses which either is not commonly possessed or imparted. If we give a course of six or eight lectures, allowing one for the subject of remedies used in dermatology and their application, I do not believe we are going to attain our objective unless we can instruct the instructors so that they can, in personal quizzes and demonstrations, see that the student has learned her lesson.

SIX-LECTURE PROGRAM SUBMITTED FOR DISCUSSION

As the purpose of this paper is largely to open a discussion as to what we should teach nurses and to agree as far as possible upon a fixed technique for dermatologic dressings, let me summarize first what seems to me a fair teaching program of six lectures, and then take up the subject of the technique of dressings. For convenience of discussion I have divided the material under six heads corresponding to six lectures.

Lecture No. I—Anatomy and physiology of the skin, showing by illustrations the structure of the skin and appendages, methods of epidermal regenerations, etc. Also included in this lecture are definitions of all the primary and secondary lesions.

Lecture No. II—The pathology of the skin with special explanation of the process of inflammation—the definition of such terms as erythema, anemia, ischemia, hyperemia, cyanosis, etc., a discussion of various forms of dermatitis such as dermatitis calorica, dermatitis venenata, dwelling on dermatitis of industrial nature, from poison oak, hair dyes, primrose, etc. The pathologic states to which the skin sometimes gives the clue, such as jaundice, Addison's disease, carotinemia, should be emphasized.

Lecture No. III—Diseases due to bacteria: Acne, impetigo, furunculosis, and others of similar nature.

Lecture No. IV—Diseases due to parasites: (a) Animal—fleas, bedbugs, scabies, pediculi; (b) Vegetable—ringworm group.

Lecture No. V—Common affections such as psoriasis, hives, shingles, chilblains, warts, moles, the seborrheic state.

Lecture No. VI—The remedies used in dermatology and application: Baths, lotions, creams, ointments, pastes, varnishes, compresses, starch poultices. The removal of crusts, ointments, pastes, etc.

Soaps—the indications for superfatted, strongly alkaline and medicated soaps.

Powders—indications, whether for the absorption of moisture, for astringent action or protection.

Such physical agents as x-ray and quartz light, to indicate the possible dangers when used by unqualified operators.

This last lecture is of the greatest importance and for a start let me submit the following outline of instruction in the application of remedies with the hope that members of the section will register any additions, omissions or alterations which occur to them.

Lotions—Those containing substances in complete solution may be applied by hand or by linen pads. In acute conditions absorbent cotton should be interdicted. "Shake lotions" such as the familiar calamine lotion should be thoroughly mixed, a sufficient quantity poured out upon a shallow dish, scooped out with a soft cloth and patted on so as to form a powdery film. If the case is severe strips of linen may be impregnated with the mixture and kept continuously in contact with the surface to be treated.

The purpose of creams is for cleansing or soothing. A cold cream is so called because its refrigerant or cooling action is due to the evaporation of the water it contains, thus reducing the surface temperature.

An ointment differs from a paste in that the former melts at the body temperature and is used to facilitate the penetration of a medicament while the latter does not melt at body temperature and is used for protection and surface action.

Compresses used in dermatology must be differentiated from the wet dressing used in surgical cases. The indication for a compress in dermatology is to relieve a waterlogged condition of the surface tissue while in surgical practice the aim is to apply and retain heat.

Now, the dermatologic compress may be made with a cold solution and the retention of heat is to be avoided. Therefore we do not cover the compress with oiled muslin. The aim of our dressing is to conduct away from the tissue the redundant fluid by a process of osmosis or capillarity. For this reason, once applied the dressing should not be allowed to dry, as a dry dressing at once forms an adhesion with the surface, defeating our purpose. The compress is preferably made with six to twelve layers of soft linen. In acute conditions gauze is less desirable because of the danger of fine shreds causing irritation. The most commonly employed compress is made with a saturate solution of boric acid, but one or two per cent resorcin and solutions of aluminum acetate are frequently prescribed for such dressings.

Oils, creams and starch poultices are frequently employed for the removal of crusts. A starch poultice is made by mixing a teaspoonful of boric acid with four tablespoonfuls of cold water starch and enough water to give the mixture the consistency of cream; a pint of boiling water is then boldly added, the mixture being constantly stirred until the starch bursts and a translucent jelly results. When this is quite cold the amount required is spread on cloth in a layer about half an inch thick. This is covered with muslin and applied to the part. (This is taken from Norman Walker.)

The use of soaps requires little discussion. For ordinary use as nearly neutral a soap as possible is indicated. In excessively oily skins a superalkaline soap such as green soap should be used.

Powders are used as protectives, as astringents or to absorb moisture. For every day use plain or borated talcum suffices. The carbonate of magnesia has the greatest capacity for absorbing moisture and tannoform is useful as an astringent.

Now this outline, plus your additions and minus your deletions, will represent what we believe should be taught nurses. Upon one point I shall hope for unanimous agreement, viz., that having presented such an outline to our nursing schools the responsible authorities in the schools are morally bound to see that each student nurse before she graduates is expected to demonstrate in quiz or clinic the technique of these various applications.

350 Post Street.

DISCUSSION

Thomas J. Clark, M. D. (1800 Madison Street, Oakland).—Dr. Chipman's plea for more systematic instruction in the subject of dermatology to the nurses in our training hospitals should be heartily supported by all interested in the advancement of medicine.

There are several viewpoints one may take in considering the training of nurses in dermatology but the subject reduces itself into three main objectives. The first is the broader viewpoint the nurse will have in her professional capacity if she is given an intelligent synopsis of this branch of medicine; second, that she may appreciate the practice of dermatology and the care of patients suffering from cutaneous disorders is much better accomplished by one who is medically trained to do this work; third, as skin diseases enter largely into the contacts of daily life she is better prepared as an individual to meet emergencies intelligently.

The training of the nurses in the Alameda County hospitals in dermatology has been intrusted to my care for a number of years past. This course has been given in the spring months to second-year students and is conducted as a series of eight lectures given at intervals of one lecture per week. The subject matter is divided into:

Lecture 1, Anatomy and Physiology.

Lecture 2, Skin Lesions, primary and secondary; etiological factors; diagnosis.

Lecture 3, Parasitic diseases, animal and vegetable.

Lecture 4, Toxic dermatoses; erythemata.

Lecture 5, Acute exanthemata.

Lecture 6, Acute infections and chronic infections.

Lecture 7, Congenital and acquired syphilis.

Lecture 8, Review and quiz.

The subject matter in these lectures is confined to the commonly met diseases and the subject is presented so that the nurse can apply the medical knowledge she receives from other departments to the better understanding of these skin diseases. It would be unwise to present subjects to nurses that one would hesitate to present to undergraduates in medicine. In this course the principles of therapeutics are mentioned rather than the details of treatment.

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Harry E. Alderson, M. D. (490 Post Street, San Francisco).—This discussion is very timely. Many of the hospitals not connected with medical schools do not provide sufficient instruction in dermatology and syphilology for nurses. On the other hand it is overdone in some institutions, and some textbooks on skin diseases for nurses are much too comprehensive. As for practical instruction in the application of various dermatological dressings, student nurses in hospitals with out-patient clinics, should learn all that is necessary as they work in turn on dermatological cases. However, it is very important to discuss this matter in the course of lectures.

At Stanford and Lane hospitals and several other training schools where my staff and I give instruction to nurses we make liberal use of the lantern. We also show clinical material whenever possible. We strongly emphasize the fact that in dermatological practice *we treat the patient* as well as the skin and we demonstrate the close relationship between the skin and the rest of the body. Nurses, patients and even physicians sometimes are inclined to take a superficial view of dermatology and they need to be reminded that we are engaged in the practice of medicine with the application of special knowledge of the skin and mucous membranes.

In our lectures we first discuss briefly the anatomy and physiology of the skin, its manner of reacting to internal bodily disturbances and to external influences. Then we present a few of the commoner dermatoses, paying particular attention to the more contagious bacterial and mycotic diseases, and to those due to insects. Hygiene and prophylaxis are discussed, but treatment is lightly touched upon for we are not aiming to produce "super-nurses." Finally, the subject of syphilis in all its phases is presented in one or two lectures fully illustrated. One week after the last lecture a written examination is given. To cover these subjects six lectures would be most satisfactory but they could be reduced to five. Instruction regarding the various dermatological preparations and methods of applying the same is very important. In spite of this teaching, however, it is usually necessary to personally show the new nurse assuming charge of a dermatological case in detail just how any given treatment should be administered.

Dr. Clark's remarks were interesting and I thoroughly approve of most of them, but I feel that the number of lectures in his course should be reduced. Lectures I and II could be combined. Likewise there could be some rearrangement of the other subjects making it possible to condense and join together at least two more. Then in place of the final quiz a comprehensive written examination could be prepared for the head nurse, who would give the same, the papers being corrected later by the lecturer. This would save three hours, one of which could be devoted to hygiene, prophylaxis and common remedies used in dermatology as suggested by Dr. Chipman.

ENEMATA*

FROM THE ANATOMICAL AND PHYSIOLOGICAL STANDPOINTS

By Silas A. Lewis, M. D.
Los Angeles

Discussion *by Charles S. James, M. D., Los Angeles; William H. Daniel, M. D., Los Angeles.*

IN reviewing the anatomy of the colon let us study first the ascending portion. At its beginning is the sacculated pouch, the cecum. Entering the upper left margin of the cecum is the ileum, guarded by the ileocecal valve which transmits contents in but one direction. The sacculated portion of the cecum is slightly longer, slightly more pouched on the lateral than on the medial side. Attached to what originally was the apex of these sacculae is the vermiform appendix. The ascending colon narrows as it comes to the hepatic flexure. Here it is held by a short mesentery. The excursion of this angulation, the hepatic flexure, is very slight as compared with the mobility permissible by the longer mesentery of the ascending colon. The hepatic flexure forms an angle, somewhat more than a right angle, because of the hammock formation of the transverse colon with its long, free mesentery swinging across to the higher splenic flexure. The mesentery of the transverse colon is longer than any other portion, allowing free excursions of the transverse colon several inches upward, downward, or sideways.

The splenic flexure is located in the upper left abdominal quadrant. At this point the mesentery attaches the colon fixedly to the posterior abdominal wall.

As we look into the fully exposed abdominal cavity the short omental attachment at the hepatic and splenic flexures gives the transverse colon the appearance of a hammock swung from two posts, the left much higher than the right. The splenic flexure forms an angle between the transverse and descending colon, practically refolding upon itself.

Here the character of the bowel changes in caliber and in musculature. Its lumen becomes smaller, its musculature much more developed and powerful. The descending colon is held rigidly to the posterior abdominal wall. In caliber it looks about the size of the ileum. This short mesentery follows the descending colon down to the sigmoid flexure, where there is a bit more freedom allowed. The same type of musculature and the same caliber prevail in the sigmoid, but as the sigmoid dips back to the fourth sacral vertebra the mesentery is so short that no freedom of motion is allowed and the sacculated muscular pouch with absence of striations forms the last four or five inches of the colonic tract.

We have, therefore, a muscular tube with distinct divisions. The sacculated portions are the cecum and the ascending colon, the transverse colon, and the rectum. The transverse colon is trapped on each end by the flexures and is immobile at those points. The descending colon, of strong musculature, is held immobile by a short mesentery. The rectum is a dilated reservoir with strong musculature. The strongest muscle of the colon is strategically so placed as to carry along by its peristaltic contractions the more compact residue of the products of digestion.

POSTOPERATIVE ENEMATA

Following operation we have a slight atony of the entire voluntary muscular system as we likewise have of the involuntary. On the first, second or third days, postoperative, the surgeon finds that the bowels have not reëstablished their action. He writes for a soapsuds enema which is administered by the nurse with the patient lying upon the back. Two quarts or more are given. This great volume of water rises in the colon, dilating the rectum, sigmoid, descending colon, rounds the curve of the splenic flexure and, because of its volume, straightens out the curves and allows its passage. On it flows through the hammock of the transverse colon distending and ballooning it out. It rounds the curve of the hepatic flexure and fills to distention the ascending colon and cecum. It can go no farther. The ileocecal valve stands guard. This inflow of an irritating fluid has been against the peristaltic waves, reversing the normal current in the entire colon. It has ballooned and placed upon overdistention the very musculature whose aid is desired.

We are all familiar with what overstretching of muscle does—the subsequent relaxation, the subsequent atony and slowness in regaining tone. How frequently the nurse records upon the chart that the enema did not return, and was siphoned off. The overdistended colon, with paralyzed peristaltic waves which might expel the enema, has been defeated in its normal function.

RADIOGRAPHIC PICTURE OF ENEMA

Now let us find out what proportion of an enema is really evacuated by the patient and, if not all is evacuated, where is it pocketed? The radiographer will tell you that he frequently gives a barium enema, and as he watches the flow up the colonic avenue it hesitates in the sigmoid as the ascending enema straightens out the curves in its upward progress. Again hesitation is seen at the splenic flexure while this straightens to allow passage. Similar action takes place at the hepatic flexure and when this flexure has been straightened the enema fills to ballooning the three sacculated portions of the bowel. How much is evacuated with the bowel movement? Films taken after evacuation show that much is securely trapped in the cecum and ascending colon, and in the transverse colon.

I have described the ileocecal valve as the guard placed in the cecum to allow transmission only in one direction, that is downward. In the radio-

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* Read before the General Surgery Section of the California Medical Association at the fifty-ninth annual session at Del Monte, April 28 to May 1, 1930.

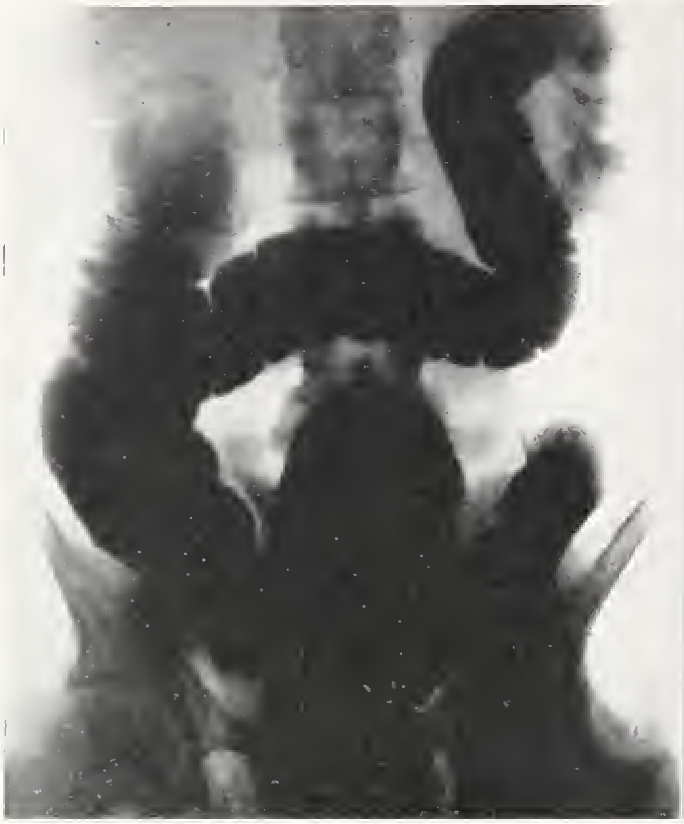

Fig. 1.—A barium enema of two quarts which was given to a normal individual who had never before been given an enema.

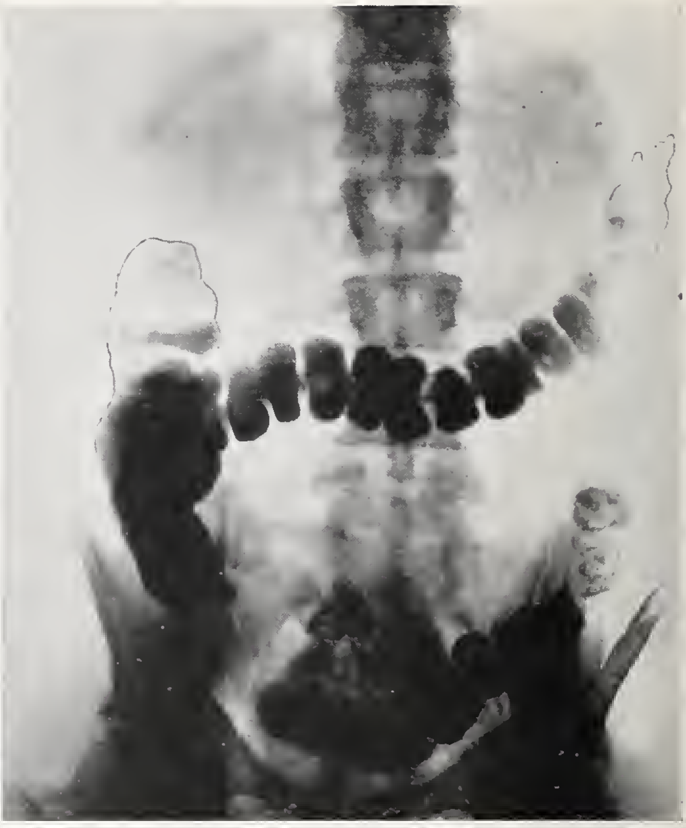

Fig. 2.—This film was taken immediately after spontaneous evacuation of the enema by the normal individual who had never before had an enema (Fig 1). It shows the residue unexpelled. Observe that the major portion is pocketed behind the splenic and hepatic flexures.

graphs of Case 1739 the barium enema is clearly shown backing up into the ileum (Fig. 3). Therefore we must conclude that the overstretching and relaxation of the ascending colon has destroyed the function of the valve, so permitting the fluid to flood back into the ileum. If it were intended that the contents of the colon should back up into the ileum, carrying therein débris and putrefying bacteria, no valve would have been placed there. To the frequent enema taker this performance of continually reinfecting the ileum must be a factor in ileocolitis. Dr. Roland S. Cummings, in a recent paper on constipation, has described the reverse peristaltic ripples established in the colon which may continue on back through the entire gastro-intestinal tract. He even states that

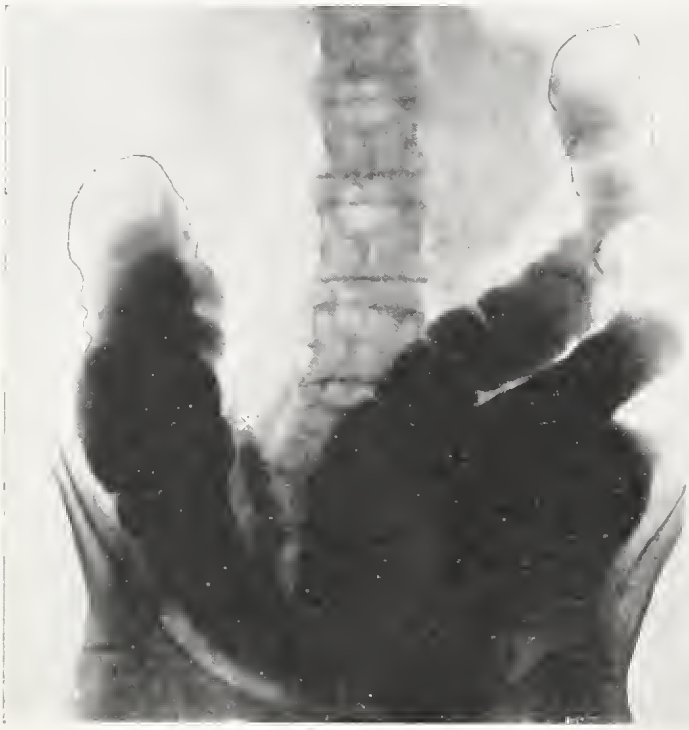

Fig. 3 (Case No. 1739).—This film is of a barium enema given to a patient who is a daily enema user. Observe that the enema is backed up in the ileum at the point marked X.

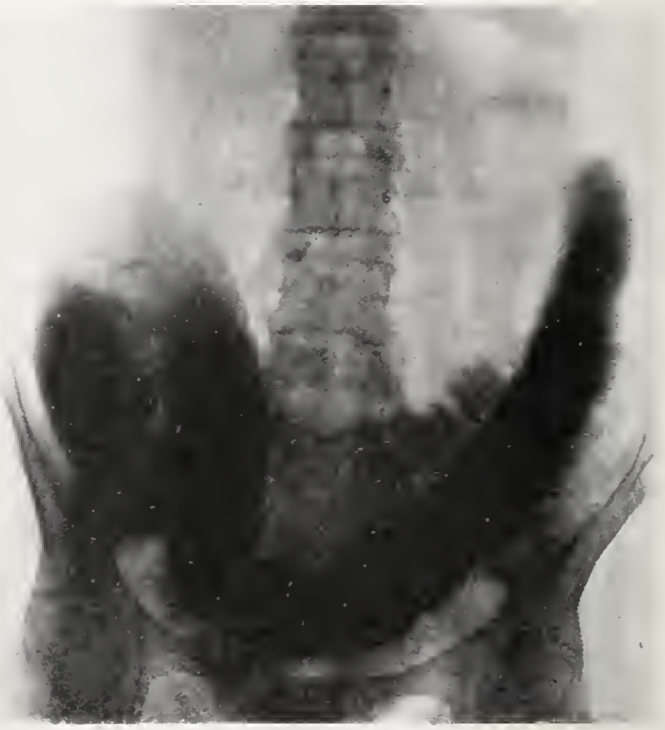

Fig. 4.—Immediately after spontaneous evacuation of the barium enema (Fig. 3), showing the major portion pocketed behind the splenic and hepatic flexures.

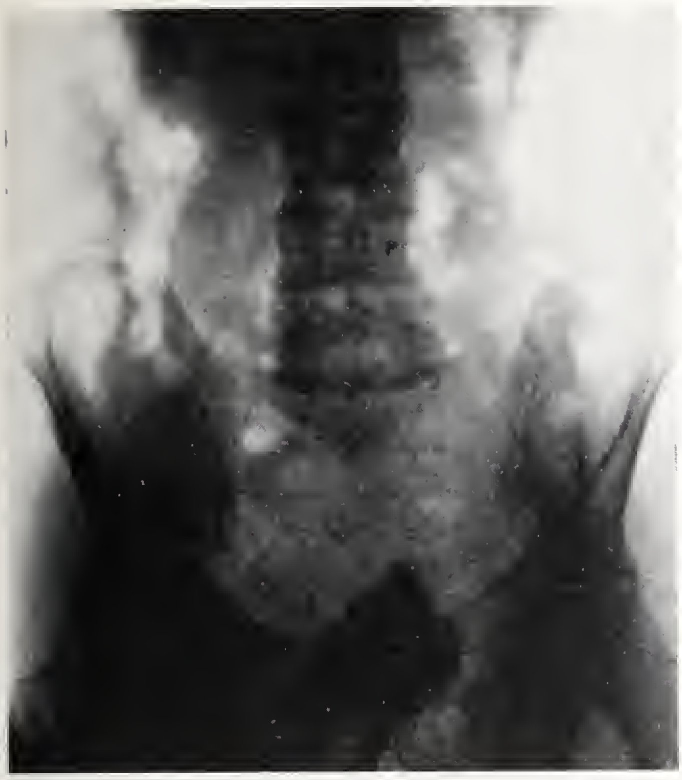

Fig. 5.—Demonstrating a rectal tube, thirty inches long, rolled up in the rectum and sigmoid.

lycopodium dusted over the anal orifice has been found in the buccal cavity the following morning. How contrary, then, to the normal peristaltic waves is this column of fluid rising in the colon!

We routinely request diagnosis with the barium enema. When I ask how many studies are made after the first evacuation of the enema the answer is, with a look of surprise, "Why, we never take any pictures at that time!" Yet when films so taken are studied, it is seen that the major portion of the enema remains and that gaseous dilatation in the three great balloons prolongs the overstretching about which I have spoken.

Here we have this great volume of water of the enema continually distending and thereby destroying the muscle tone we are so anxious to reëstablish. Our patient says: "Doctor, I feel miserable, have a headache, my bowels aren't moving." The doctor orders an enema at once. It is given, the headache disappears, the temperature drops, the patient sleeps. What has happened? The temperature of the fluid of the enema has been below the patient's temperature. Two quarts of this cold fluid have been poured into the bowels and much absorption into the circulation occurs. The headache is relieved. Certainly it is. It is relieved by rapid absorption of the fluid into the dehydrated tissues. The shock of the enema and the need of the blood to warm the cold water has caused a cerebral anemia, therefore the headache is diminished. But the establishment of the normal function of the bowel has been damaged and by frequent repetition may be permanently damaged. We have the chronic enema takers with us always, those who have no normal bowel movements because they wash out the mass which the muscle would normally contract upon and they balloon the musculature until its contractility is permanently destroyed.

SURGEON'S RESPONSIBILITY AFTER OPERATION

The purpose of surgery should not be to "cut and tie" only. We should in every way aim to reëstablish the normal function of the bowel. To accomplish this there are two essentials: stimulation of the muscle of the bowel with small enemata or suppositories, combined with stimulating catharsis; and provision of a bulky mass in the rectum by feeding bran, agar or vegetables that leave a residue of a semisolid consistency. These should supplant entirely the copious, distending enemas.

In reviewing a series of major operations performed within the last few months, I have selected the last fifty successive case records for analysis. Of this number, nine reëstablished bowel function without an enema or cathartic and forty reëstablished normal bowel function by stimulating enemata of milk and molasses combined with administration of mineral oil. In twenty instances only, one milk and molasses enema was given, in thirteen two were given, five patients required three, and one had six before normal bowel action was reëstablished. One patient of this series died with peritonitis from a ruptured, gangrenous appendix. To this patient two milk and molasses enemas had been administered, and could in no way contribute as a cause of death.

For a long time I had great difficulty in preventing nurses administering enemas to my patients without a written order. It seems that the general impression made on the nurse's mind is that if a patient's bowels do not move a soapsuds enema is in order without direction from the doctor in charge. It seems to me that the written direction for such procedure is just as essential as the order for diet or medication and that it should be absolutely against the hospital rules for a nurse to proceed undirected.

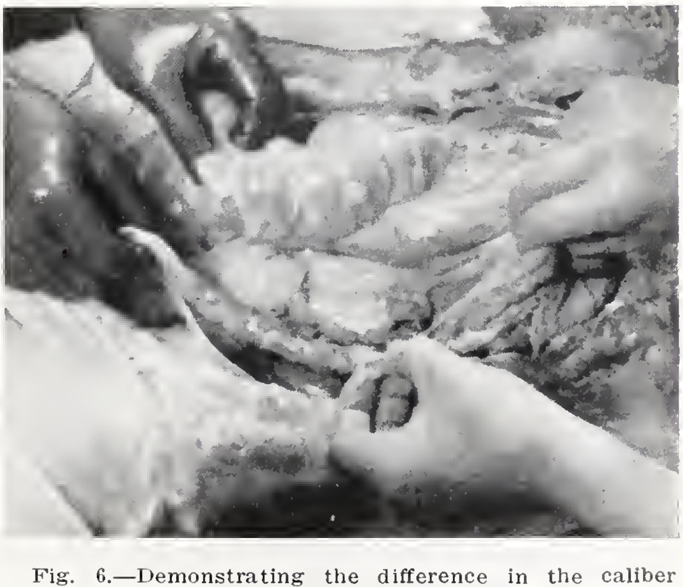

Fig. 6.—Demonstrating the difference in the caliber of the transverse colon and the descending colon. The strongest muscle of the gastro-intestinal tract is located in the descending colon and is so strategically placed, for heavy duty.

To the minds of the layman, the nurse, and often of the doctor, the term "high enema" implies the introduction of a long colonic tube. The accompanying illustration presents an x-ray film with thirty inches of tube coiled in the rectum and sigmoid. This was not done as a trick illustration. The tube was introduced in the routine manner with the patient on his back. Practically no distress was experienced by the patient, which substantiates the fact that the passing of a long rectal tube through the sigmoid is a most difficult procedure.

Nowhere in nature do we find an enema rock or an enema tree. The fountain syringe and the irrigating bag are strictly the development of civilization, and are sold by expert advertising. In this promotion the rubber goods manufacturers are aided and abetted by some unsuspecting doctors.

CONCLUSIONS

1. Voluminous enemas destroy muscle tone.
2. Voluminous enemas destroy the function of the ileocecal valve.
3. Voluminous enemas are pocketed and retained behind the splenic and hepatic flexures.
4. The so-called "high enema" is a misnomer and is dangerous.
5. Enemizing is important treatment and should be prescribed and regulated by the doctor.

1680 North Vine Street.

DISCUSSION

Charles S. James, M. D. (820 Westlake Professional Building, Los Angeles).—It is a well recognized fact in discussing the anatomy, physiology or pathology of the intestinal tract that it should be clearly defined which animal group is being considered as the herbivorous, carnivorous, or omnivorous because of the wide anatomical and physiologic variations.

This paper is a very timely one as a plea for our greater care against the abuse of, but not the use of, enemas, stressing as it does the futility and even possible danger of the voluminous enema.

The old views of "high and low enemas" are without anatomical or physiological basis, for fluids, when introduced into the rectum, are carried rather rapidly to the ileocecal valve, aided by the reversed currents of Bond; hence there is no indication for the use of the long rectal tube with its incidental rectal coiling, and all enemas are "high enemas."

Coiling of the tube, perforation or injury to the rectum, is prevented by not introducing the rectal tube more than ten to fifteen centimeters (four to six inches). It is seldom that one can introduce a tube beyond the valves of Houston without a proctoscope or other aid.

From a surgical viewpoint, enemas should be avoided during the first two weeks after suture of the colon, and large enemas, two to four liters, have caused intraperitoneal leakage and peritonitis from the giving way of an appendiceal stump, a necrotic area of the bowel, or of an intestinal suture line, even a week or ten days after operation.

In recent years there has been a great deal of investigation, observation, and study in the effort to secure a better understanding of the movements, functions, and physiological relationship of the colon, resulting in a marked advance in our sum of knowledge pertaining thereto; however, it has been revealed that there is a wide variation of opinion by the various investigators and there remains a broad field for further investigation before we can accept as factual many of the present-day theories.

The colon presents many factors different from the preceding small intestine. Its movement may be of a mixing or segmental type, in the ascending colon a reversive retarding movement may be noted evidently that the absorption condenser function may be favored, or that peristalsis may be of either the progressive wave type or rush mass type.

Gravity probably plays but little part in the progress of material through the colon, and gastro-enterologists are paying less attention to the position of the colon, especially the transverse loop, and it has been shown by Moody and Chamberlain, in a study of six hundred normal students, that the transverse colon was found so frequently situated in the pelvis that this position must be accepted as a normal one.

The intricate nerve supply of the colon would indicate a greater importance than we now accord it. The division of the gastro-intestinal tract, according to its innervation, corresponds roughly to the embryological differentiation and we note, according to Brown and Fraser, that the anterior segment has both motor and inhibitory impulses transmitted by the vagus; the middle segment is supplied by the sympathetics (inhibitory) and the parasympathetics (motor) from the thoracic and superior mesenteric plexuses; the posterior segment is more complex in that both inhibitory and motor impulses supplying the proximal portion of the large intestine are conducted by the sympathetic system through the inferior mesenteric plexus; the distal portion is supplied by motor nerves from the lumbosacral plexus, and the rectum by both the parasympathetic and sympathetic nerves from the pelvic plexus.

It would appear that the medical profession have as yet many unsolved complex problems before they attain a practical understanding of colonic dysfunction with its multivaried clinical sequela.

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William H. Daniel, M. D. (802 Pacific Mutual Building, Los Angeles).—Doctor Lewis has presented a very important and practical subject. The enema habit has become more vicious than the cathartic habit, especially since the advent of the commercial establishments.

He has shown the capacity of the colon, the anatomical points of arrest of the fecal current, especially in the sigmoid flexure, as it lies low in the pelvis. Associated with this latter condition is frequently a looseness or prolapse of the sigmoid and of the rectal mucosa, which when pressed upon by a large amount of fluid from above offers a greater obstruction to the outward flow.

The majority of enemas are given without any physiological or clinical reasons excepting that the bowels have not moved. The causes of constipation, as rectal pathology causing the gastro-intestinal tract and pelvic organs, usually have not been considered.

Repeated overdistention of the bowel causes a loss of tone with impairment of the nervous mechanism. The use of large amounts removes the natural lubricating mucus, thus increasing or prolonging constipation. To the actual damage done must be added the neglect of the offending rectal pathology and the increasing irritation caused by improper treatment.

It is my opinion that 90 per cent of all colon flushings are given or ordered without scientific reason and that enemas rarely, if ever, cure constipation. There are a few cases of specific ulcerations in which irrigations are helpful.

Soap should never be used as it causes a marked proctitis. Enema tubes should always be of soft rubber and of small caliber with rounded ends, and should be inserted, whenever possible, with the patient in the lateral position.

In the surgical cases the effect of trauma must be considered and the bowel function should be allowed to recover as far as possible in a natural manner.

PREOPERATIVE MEDICATION*

By Mary E. Botsford, M. D.
San Francisco

PROGRESS in the development of anesthetic agents and methods has been so paralleled by the advance in pharmacology that it may fairly be said to depend upon it, and in no way has this been so marked as in the adaptation of the newer hypnotics. The addition of the barbiturates and tribromethanol to the previously known narcotics, such as the opium derivatives and scopolamin, have helped immeasurably in providing an escape from the depressing effect of fear and in bringing the patient to the operating table in the best possible physiological and psychological condition.

Preoperative medication has come to mean something more than the traditional hypodermic injection of morphin and atropin. The apprehensive patient is now insured a restful night by one or other of the hypnotic drugs. Prevention of dehydration by the administration of fluid, preoperatively or by hypodermoclysis, is routine treatment. An hour before the operation, sodium amytal, avertin or one of the opium derivatives, combined with scopolamin, in dosage suited to individual reactions of blood pressure, metabolic rate, age, weight, etc., given in the room or ward, depresses the nervous system sufficiently to produce unconsciousness or at least indifference to the sights and sounds of transportation or to a possible long period of waiting in the surgery.

Adaptation of the anesthetic to the individual patient and the operative procedure is so important that its selection should be not only the prerogative but the responsibility of the anesthetist. This is equally true of the preanesthetic medication, and not until the assistance of the anesthetist is sought by surgeon and internist in selecting not only the anesthetic but the preliminary hypnotic will the best results be obtained. Success or failure of the anesthesia is largely dependent upon the preoperative medication, and the evils of routine dosage are often responsible for postoperative morbidity.

Some years ago when much attention was being paid to the so-called dangers of light anesthesia, Gatch and Mann proved conclusively that operative shock was often due to an anesthesia deep enough to permit, through lowering of muscular tone, the determination of blood to the valveless veins of the splanchnic area and a consequent brain anemia.

The necessity of maintaining as deep muscular relaxation, consistent with safety, as the particular surgeon requires, is a problem in every anesthesia and many factors other than the amount of the anesthetic agent enter into its solution.

In certain surgical procedures, such as mastoidectomies, thyroidectomies, and many orthopedic operations, muscular reflexes are not produced by the surgeon's manipulations and the light anesthesia of gas is sufficient, provided an efficient preliminary hypnotic is used.

Crile, in his work on anoci-association, describes local anesthetics as protecting the brain from the effects of local operative injury but not against destructive psychic strain, while inhalation anesthetics exclude the psychic stimulation of the brain cells, but do not exclude the operative stimulation.

BALANCED ANESTHESIA AND SELECTION OF HYPNOTICS

The method of not relying upon one agent to produce and maintain surgical narcosis has been aptly called balanced anesthesia.

The selection and combination of hypnotics and anesthetics must vary with the individual condition.

The use of *atropin* in combination with morphin was based on the tradition that still maintains, that being the physiologic antagonist of morphin, it provides a safety factor. It stimulates respiration, accelerates the heart and increases the metabolic rate. This respiratory action is a disadvantage in modern gas anesthesia, and now that carbon dioxid is available in all well-equipped operating rooms, respiratory depression can be immediately overcome.

The giving of atropin in small doses to children who are considered to be under the age where morphin may be safely administered is to be condemned and, except with deep ether anesthesia, its use with morphin is unnecessary.

Scopolamin, having fallen into disrepute because of reports of respiratory depression undoubtedly due to deterioration from age, is again proving its value in allaying fear and aiding rather than antagonizing the action of morphin or pantopon in decreasing muscular irritability and has a greater margin of safety than the barbiturates or avertin in that it does not depress blood pressure.

Better results are obtained by giving a full dose of 1/200 to 1/100 of a grain of scopolamin three-fourths or half an hour before operation, rather than in divided doses, beginning an hour and a half before, with the dosage modified by the respiratory rate response. If the rate drops following the first dose, the second is omitted and the effect is lost by the time of operation, whereas, if the interval is shortened the respiratory depression, if any, comes during the anesthesia, when stimulation with carbon dioxid or ether are available. A safe, controllable, respiratory depressant has long been needed in anesthesia. In upper abdominal surgery the hampering of the surgeon's manipulations is as often the result of exaggerated respiratory movements as of too light anesthesia. *Ethylene* promised to fill this need, but its depressant effect on respiration is so rapid and deep as to constitute its chief disadvantage, and there have probably been more fatalities due to this cause than to its explosiveness.

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* Read before the Anesthesiology Section of the California Medical Association at the fifty-ninth annual session at Del Monte, April 28 to May 1, 1930.

In order to compare the results of the oral administration of *sodium amytal* with the intravenous, thirty patients, ranging from ten to sixty-eight years, were given it by mouth in doses of five to fifteen grains one hour before operation. The minimum dose was used as no attempt was made to produce anesthesia, the drug being evaluated as a hypnotic only and nitrous oxid used for the anesthesia. The addition of a small amount of ether was necessary in three cases. This series is too small to permit any definite conclusion, but sufficient to show that oral administration is equally efficient and less objectionable, from a psychic standpoint, than the intravenous method. The possible safeguard of estimating dosage by noting blood pressure fall during intravenous administration is not entirely reliable, as frequently the drop comes several hours later. In all but three patients there was a fall in blood pressure of from ten to thirty degrees. One patient, with a preoperative systolic pressure of ninety, showed no depression during the operation, but five hours later had a drop of twenty-five degrees with respiratory depression and cyanosis which, however, responded promptly to ephedrin and caffein. Two patients were difficult to control for several hours postoperatively, and one exhibited mental confusion for two days. An acceleration of the pulse rate was noted in several cases which persisted for two or three days, but this was not constant and might easily have been due to other factors.

In all but two patients, one of whom had apparently acquired a tolerance from previous use of amytal, sleep supervened in five to ten minutes. Four patients received one-eighth to one-fourth morphin in addition. It was noticed that there was some postoperative nausea in these cases and that where morphin was omitted nausea occurred in but one patient.

The conclusions reached from this series was that the barbiturates have a definite field as hypnotics; that they compare favorably with the combinations of opium derivatives and scopolamin; but that, as the lethal dose in man has not yet been determined, their use as anesthetics is not safe.

There has not been as yet a sufficient number of cases reported from which to judge the comparative merits of the barbiturate group and tribromethanol, but a few definite conclusions may be made.

Their hypnotic effect is about the same. There are no morbid after-effects in blood or urine excretion. Nausea is rare with either drug. Their depressant action on respiration is about the same, but is not sufficient to be an objection. They both depress blood pressure, sodium amytal somewhat more than avertin.

All of the arguments in favor of their psychic value as a preliminary to inhalation anesthesia have double force when the anesthesia used is spinal. In this form of anesthesia there is a greater need to allay the fears of the patient than in any other. Finally, the barbiturates have been proven to decrease the toxicity of the cocain derivatives.

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KEINBOCK'S DISEASE*

COMPRESSION OSTEITIS OF SEMILUNAR OR LUNATE BONE OF THE WRIST

REPORT OF CASES

By N. Austin Cary, M. D.
and
Leonard Barnard, M. D.
Oakland

Discussion *by H. D. Barnard, M. D., Los Angeles; Lionel D. Prince, M. D., San Francisco; Maynard C. Harding, M. D., San Diego.*

A RADIOGRAPHIC interpretation of an osteitis of the lunate or semilunar bone of the wrist joint was made by Keinbock[1] in 1910. Kellogg Speed[2] in his book published in 1916 refers to the same lesion of the wrist joint and calls it Keinbock's disease. Speed was of the opinion that the condition was a fracture of the semilunar with fragmentation rather than a true osteitis.

Mark Rogers[3] of Boston gave a very excellent description of this same condition in 1922, reviewed seven cases reported by Preiser in 1910, and five cases reported by Guie in 1916. His observation was based upon five cases and called special attention to the resemblance the lesion had to Kohler's disease of the tarsal scaphoid and to Kummel's disease of the vertebral bodies. He believed the lesion to be an osteitis, the result of a trauma.

Erich Soupe[4] in 1923 reviewed fifty cases of the same lesion, twenty reported by Becker; sixteen by Keinbock; seven by Guie; six by Finister, and added one additional case. Ralph Goldsmith[5] in 1925 added one case and reviewed Soupe's group. R. Fontaine[6] in 1925 reported one additional case and reviewed a case reported by Mueller not previously mentioned by other writers. Mueller's case was later referred to by Henderson[7] in an article on Keinbock's disease in which he added two case reports. Roscoe Webb[8] reported one case in 1926 and H. D. Sonnenschein[9] reported a case in 1927.

In all it would appear that about seventy cases have been reported, making it seem that the lesion was comparatively rare. It is our contention that the occurrence is much greater, but that unrecognized cases are far greater than the reported.

ETIOLOGY

The ratio of incidence, according to Soupe, is seven to one in favor of men. The right wrist

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is involved two and one-half times as frequently as the left. The lesion has never been observed in children or in advanced age, but is confined to the third and fourth decades. The laboring class furnish the majority of the afflicted.

A fall upon the dorsiflexed wrist is given as the most common etiological factor. Repeated minor trauma may also incite the disease. Our observations show a single trauma that suddenly forces the wrist joint into dorsiflexion.

The majority of writers agree there are three distinct forms with relation to etiology:

(a) *Anatomical,* due to abnormal pressure lines from anatomical anomalies. No case reports were given in any of the reviews which demonstrated this form.

(b) *Occupational,* due to repeated minor traumata.

(c) *Traumatic,* due to a single violent injury. The greater number of cases fall into this class, the mechanism usually being an avulsive movement which forces the wrist joint into dorsiflexion, producing a momentary volar dislocation of the lunate bone, accompanied by an avulsion of the dorsal ligamentous attachments holding the principal blood supply and followed by a spontaneous reduction at once or within a short time following the accident. The nutrition of the bone is interfered with either by direct severance or an ischemic result from torsion, traction, and pressure.

SYMPTOMS

The symptoms and mode of onset, it can be seen, will vary greatly with the type of etiology responsible. In the first two groups the development is insidious, while in the traumatic form the symptoms at the time of injury may be mild or severe. Pain in the wrist joint is the principal symptom and may last from a few hours to several days. Moderate swelling about the joint generally follows the accident and may very rapidly subside. Loss of function is dependent upon the amount of pain and swelling present. In practically all cases the acute symptoms subside in from one to fourteen days, leaving only a lame soreness on forced movements.

The late symptoms appear in from one to nine months after the original injury in the traumatic group. No definite time of late symptoms can be given in the first two groups. Lameness, pain and soreness on jarring or forced movements are the principal complaints, with swelling over the dorsal surface of the wrist joint distal to the annular ligament—the amount depending greatly on the amount of usage. Minor repeated traumata greatly aggravate the traumatic form at this stage. Rest will relieve all symptoms temporarily, but they recur upon the resumption of activity. Localized tenderness, directly over the carpus involved, is the most persistent physical finding. All movements are decreased over the normal, especially dorsiflexion and forced movements beyond certain limits produce pain in the wrist joint.

X-RAY FINDINGS

The x-ray findings are very characteristic and are the principal factor in making a diagnosis. The lunate or semilunar bone shows a marked compression, seen best in a lateral view of the wrist joint. The size of the bone is reduced from one to two-thirds its normal; the anteroposterior measurement is decreased and the body flattened.

Late in the disease there is absorption or decalcification, giving the appearance of multiple fragments which may lead to the diagnosis of fracture with nonunion of fragments. The normal space occupied by the lunate bone becomes reduced in size. As the collapse due to softening occurs, the neighboring bones move in to close the area. The picture at this stage is very suggestive of a Kohler's disease of the tarsal scaphoid.

TREATMENT

Reviewing the various comments in the reported cases on the methods of treatment, one arrives at the conclusion that surgical removal has given the best results. Mueller in his case curetted out the softened cancellous portion of the lunate bone, leaving the cortex as a shell. He reports a good functional result. Henderson advises a conservative plan of rest by splinting and expectancy, believing a functional wrist will eventually result.

In the early cases giving a typical history and physical finding with negative x-ray, Goldsmith advises immobilization from four to eight weeks, with dorsovolar pressure, traction being applied to the great finger to minimize the physiological pressure upon the carpus.

In the later cases, showing compression with persistent symptoms, surgical removal is the method of choice. Sonnenschein used rest and physical therapy measures for six weeks without relief of symptoms in his patient. Ostectomy was then done of the entire bone. His patient was able to return to work six weeks after operation. He does not state, however, the type of work. Our experience would not permit heavy normal labor in so short a time.

OPERATION

The operation of choice is a volar approach to the carpal bone. A longitudinal incision about two inches long is made directly over the lunate bone, which divides the skin and subcutaneous tissues. By careful blunt dissection, the tendons are separated without opening the sheaths and retracted laterally; the median nerve is to be avoided and retracted laterally. The anterior or volar ligament is then divided as far upward as required for good exposure and by blunt dissection all tissues are freed from the volar surface of the bone. The lunate bone is recognized, care being taken to identify the carpus to be removed. The bone shell is thin, an oily fat fluid can be expressed from the bone, the appearance is decidedly darker than the normal carpus—the size smaller and quite friable. The bone is then rolled out sufficiently to permit its dorsal attachments to be divided. Closure is made in two layers, first uniting the cut volar ligaments. The

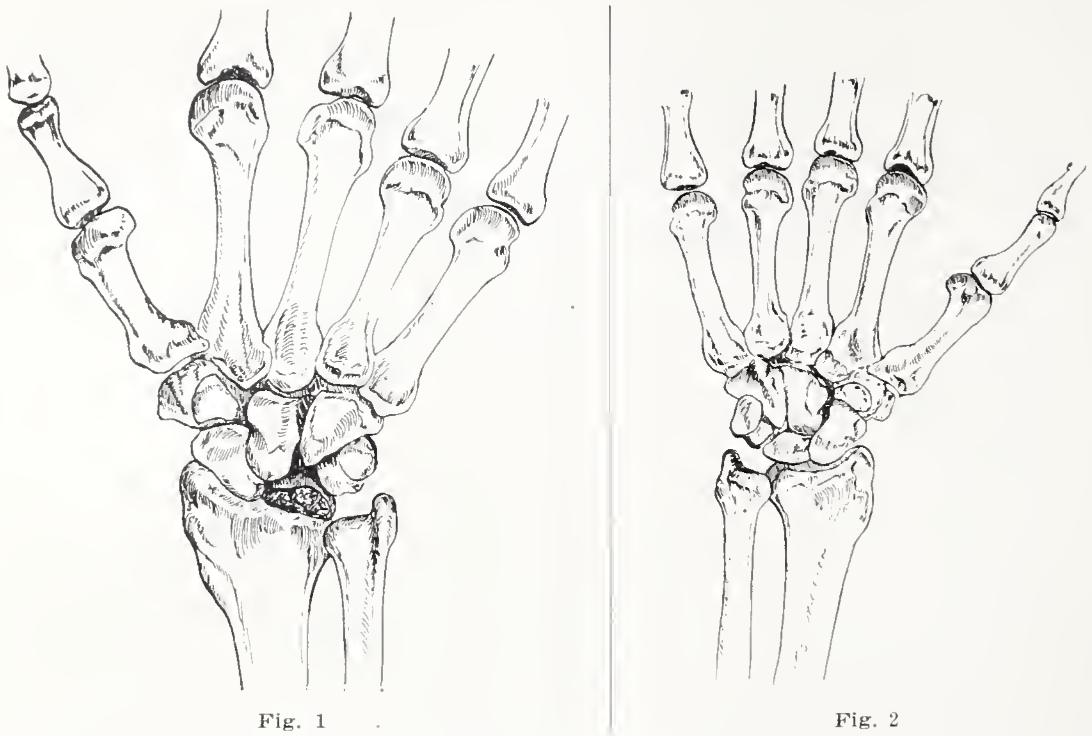

Fig. 1 Fig. 2

Anteroposterior view. Drawing from x-ray of Case 1. Shows atrophic changes in lunate and compression of the entire bone when compared with the normal.

tendons and median nerves are allowed to drop into place and the skin and subcutaneous tissue closed. No splinting is used. Dressings are secured in place with a crêpe-paper bandage. Early movement is instituted.

Four to eight weeks are required for subsidence of symptoms, although some cases were reported as working in six weeks after surgery. There were no failures reported from the surgical cases, while no reports were made on the eventual results on the nonsurgical.

REPORT OF CASES

Case 1.—Mr. R., age twenty-eight years, observed May 1, 1926, truck driver. Gave a history of having the right wrist joint forcibly dorsiflexed while unloading a heavy piece of machinery. Severe pain was experienced immediately in the wrist joint. Swelling soon followed; he was unable to continue with his work and was referred to the company industrial surgeon for treatment. Roentgen rays of the joint were negative for fracture or dislocation. A diagnosis of sprained wrist was made and supportive treatment instituted. After three months of rest and physical therapy measures, consisting of radiant heat and massage, also active and passive movement, his symptoms were greatly improved, but never to the point that he could resume his duties because forced movements always caused pain. Point tenderness was present over the carpal bones. Roentgen rays were again made and a diagnosis of arthritis of the wrist joint made; decalcification of all bones of the wrist joint was shown. Tuberculosis of the lunate bone was advanced and immobilization was again instituted.

Patient was first observed by us six months after injury. His general physical examination was excellent. The Wassermann, Von Pirquet and Koch old tuberculin tests were negative. An x-ray examination of his chest was negative for old or new tubercular lesions. The right wrist joint was normal in appearance; movements reduced about one-half the normal left. The grip was very poor. Flexion of the fingers was limited, the tips of the fingers falling one-half inch from the mid-palm; this we attributed to a myofascitis due to his long immobilization. There was point tenderness present to both volar and dorsal compression over the carpus. Roentgenray graphs of both wrists showed the right lunate bone markedly compressed. (See Figs. 1 and 2.)

A diagnosis of osteitis of the semilunar bone was made under the special classification of Keinbock's disease, and surgical removal advised.

The differential diagnosis in this case between infectious arthritis, tuberculosis of the lunate bone, and Keinbock's disease, based upon general experience, was not difficult. In tuberculosis of bone the primary lesion would require a longer time for development, at least nine months being required for foci of tuberculosis to progress so far in a bone. In arthritis the changes would be more general, involving more than one bone.

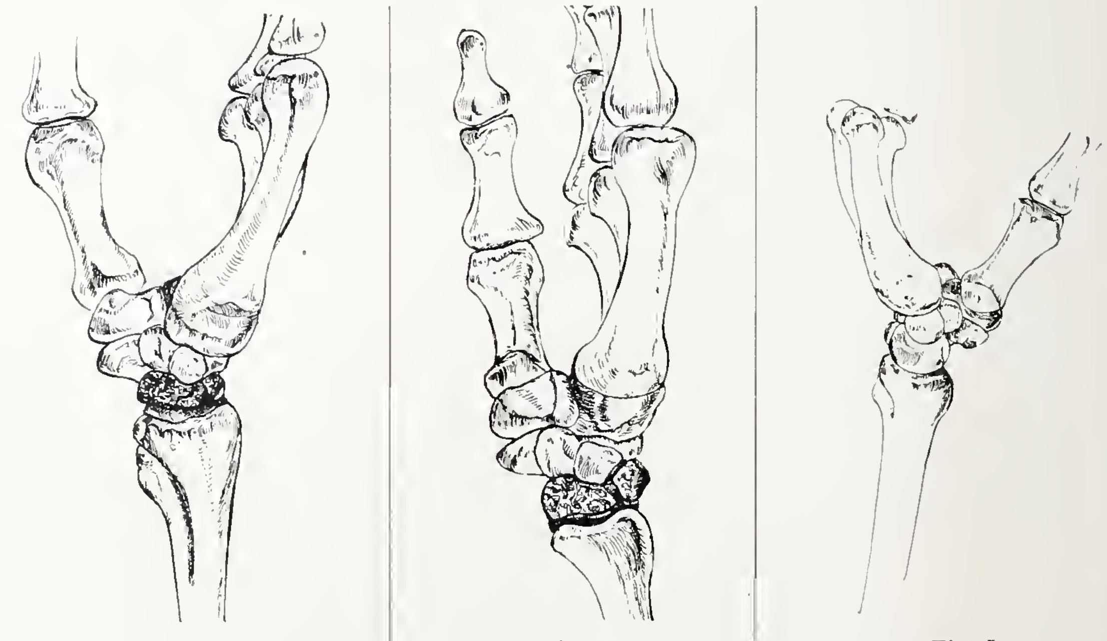

Fig. 3 Fig. 4 Fig. 5

Lateral views in Cases 1 and 2. Show atrophic compression elongation of the lunate when compared with the normal of the same patient.

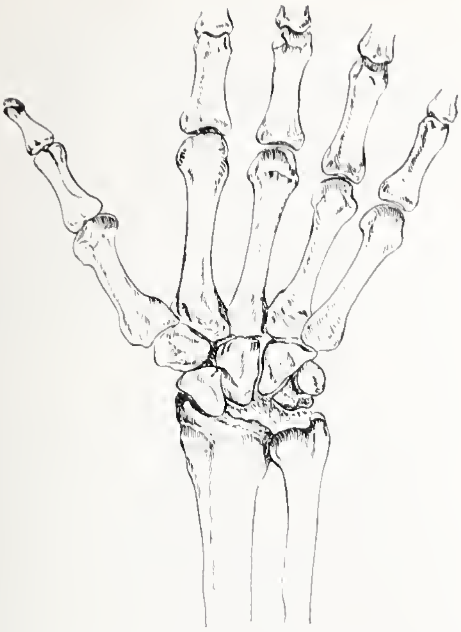

Fig. 6

Drawing of x-ray made after removal of lunate. Note that the space so left has been gradually obliterated.

This was our first case under this diagnosis, and operation was planned as in removal of a fractured semilunar. The approach was through the dorsal incision directly over the bone, the tendons were carefully retracted and the dorsal ligaments incised to the bone. After considerable dissection with a sharp periosteal elevator, we were unable to locate any bone which appeared damaged. The field was extended, exposing the entire scaphoid and most of the os magnum and cunieform, but the lunate could not be located. Placing retractors between the scaphoid and cunieform, an opening was made at the bottom of which lay the lunate bone; retraction was increased, the bone grasped with forceps, which collapsed under the slightest pressure, requiring the removal in sections. The cavity was flushed with warm normal salt solution and wiped dry with cotton pledgets. The wound was closed in two layers, one deep and the other of skin and superficial fascia. Healing was uneventful. Six months was required before this patient could be induced to work. Pain had been completely relieved, but function was not complete and he questioned his compensation status if he went to work too soon. On last observation, one year after surgery, he was free from pain and working. Palmar flexion was slightly less than the normal left.

* * *

Case 2.—Mr. B., age forty-three years, carpenter, came under observation in April 1928. He gave a history of having the right wrist forcibly dorsiflexed eight months previous while handling a heavy timber. Sudden intense pain in the wrist joint was felt. The pain gradually subsided in about an hour. There was limitation in movement, in fact he experienced a certain amount of relief by manipulation. A throbbing was present when he stopped movement. He continued with his work for two weeks.

Because of a continued soreness on movement, he consulted his industrial surgeon, who advised immobilization. A bandage was applied; this method of treatment was continued for six weeks with but moderate relief. He was advised that absolute rest would be required. This he refused, as his work was now light and his symptoms no worse. No x-rays were made on the case. Four weeks before we observed him and seven months after injury, swelling developed over the dorsum of the wrist joint, at the distal end of the radius and distal to the annular ligament. Pain had grown worse under heavy lifting.

On observation there was a moderate swelling present, as above described. His movements in the right wrist joint were reduced one-half the normal left. Point tenderness was present over the lunate bone, both dorsal and volar. He complained of pain on all forced movements of the wrist joint and upon grasping firmly or lifting. His general physical examination was negative, also his laboratory tests.

An x-ray examination was made in anteroposterior and lateral positions. The lunate bone was reduced in size, below the normal. The opposite wrist was x-rayed for comparison (see Figs. 2, 3, and 4). In the lateral view (see Figs. 3 and 4) the bone was seen to be markedly compressed; the anteroposterior mensurations increased and areas of decalcification were present, giving the appearance of multiple fragments, especially upon the volar side.

Surgical removal was advised, but patient requested that nonsurgical methods be tried first. A leather cuff support was provided with a thumb strap to hold the appliance in position. Diathermy to the wrist joint by the direct method was given daily for two weeks, followed by every other day for a like period. Complete relief of pain and subsidence of swelling was obtained by this treatment.

Reviewing the dates in this case, I find his injury occurred October 6, 1927. Symptoms were present to April 19, 1928, when we first observed him, and worse four weeks preceding our observation. Fixation and physical therapy measures were instituted on May 1, 1928, with marked relief of all symptoms in thirty days. This method of treatment was continued for two and one-half months, when a maximum of improvement was apparently reached—movement was limited; pain was produced on forced flexion extension; swelling had subsided; he was unable to work. Operation was agreed upon and done on July 25, 1928. Physical therapy measures were again instituted on August 20, 1928, and continued three months. He returned to light duty on August 20, 1928 (no heavy work), four weeks postoperative and to full duty on November 1, 1928.

Our report of November 24, 1928, is as follows:

"Since operation patient has complained of a disturbance in sensation in the thumb, index and ring fingers of the operated hand, explaining that he was unable to tell when he had a small object, like a coin or his watch ring, between his fingers and thumb. There was no evidence of deformity or disability incident to movement and function in the fingers. Movements of the wrist joint were reduced one-half the normal left."

On observation, January 31, 1929, sensation had returned to the extent that he could distinguish small objects with the index finger and to a much less degree with the thumb. His ability to flex and extend the wrist showed a material improvement over our last report, being approximately four-fifths the normal.

Our last observation of this patient, April 1, 1929, showed complete return of sensation, with no additional improvement in movement. Fig. 6 shows the present appearance of the bones of the wrist joint.

2939 Summit Street.

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DISCUSSION

H. D. Barnard, M. D. (2417 South Hope Street, Los Angeles).—I quite agree with the author that this condition is frequently overlooked. The figures of the reported cases do not allow of a proper estimation of the frequency of occurrence although the condition is comparatively rare. I am inclined to favor the fracture element from an etiological standpoint; the trauma in the very few cases I have seen being relatively severe, one case having resulted from a golf-club swing. The volar approach is preferable in surgical removal procedures. Pain is liable to persist over a long period after surgical removal and a decided weakness is quite likely to be permanent. One patient operated upon early in 1928 estimates the strength of the wrist at 50 per cent of previous strength and his judgment is not influenced by any element of compensation.

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Lionel D. Prince, M. D. (490 Post Street, San Francisco).—I agree with Doctor Cary that Keinbock's disease, which is a chronic, slowly progressive osteitis of the semilunar bone of the wrist, occurs much more frequently than the literature would indicate. It is always fallacious to judge the frequency of a condition of this type on the basis of literature alone, as the majority of cases that are observed are not reported. Personally, I have had two cases, both typical clinically and radiologically in every way. In both cases there was a history of trauma of rather severe nature.

In one case the injury occurred about fifteen years prior to the time when the patient came under my observation. He had received a severe injury to the wrist, the exact nature of which could not be determined. He was under medical observation for a long period of time. Over a year elapsed before the man regained the use of his hand and wrist. From a clinical point of view he eventually recovered and when he was seen by me he gave the history of recent symptoms arising from a sprain sustained a few weeks previously. X-ray graphs showed a partially dislocated semilunar bone, which was cystic and distorted. Excision of the bone resulted in a complete cure.

I believe that the disease is primarily circulatory in origin, the normal blood supply of the bone having been disturbed as the result of traumatization, with resultant disintegration and fragmentation of the bone. Excision of the bone is to be advised in all cases where painful symptoms persist, the procedure being very simple through the volar approach.

In the first case which came under my care, a certain amount of disability was permanent even after the diseased bone had been removed. This I attribute to the fact that the patient had sustained a fracture of the scaphoid and there was unquestionably other damage to the wrist joint besides that which was visible radiologically.

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Maynard C. Harding, M. D. (700 Electric Building, San Diego).—I have never considered this a separate disease entity but only a typical response to loss of blood supply. All of the cases I have seen have had a severe trauma. The results of removal have not been very satisfactory. Those cases in which other inflammatory changes have been present, such as spurs, adhesions, and pannus, have not been helped much by operation.

It is important in industrial surgery to give a guarded prognosis, as many of these cases will never be able to do hard labor again.

⁂

Doctors Cary and Barnard (Closing).—Our last observation on Case 2, made on April 1, 1930, showed flexion extension to be approximately four-fifths the normal, grip normal, with a complaint of pain on forced rotation, such as is encountered in using a screw driver. Patient made no other complaints.

We believe that complete removal of the affected bone is necessary for relief of symptoms, and that eventual recovery can be expected, though a long period of partial disability must be anticipated.

THE DETERMINATION OF ERYTHROCYTE MEASUREMENTS—CLINICAL SIGNIFICANCE OF A NEW, SIMPLE METHOD[*]

REPORT OF CASE

By Garnett Cheney, M. D.
San Francisco

Discussion *by W. T. Cummins, M. D., San Francisco; E. M. Hall, M. D., Los Angeles; H. A. Wyckoff, M. D., San Francisco.*

Extensive studies of erythrocyte morphology have established the importance of measuring the diameter of red blood corpuscles. Their size is fairly constant in normal individuals, but they may show characteristic changes in several diseases which produce an abnormal blood picture. In a few diseases such changes are sufficiently constant and striking to be of diagnostic significance. However, the methods usually employed have been so laborious that they have not come into widespread use. Consequently an intimate knowledge of the subject has been more or less confined to those medical centers which carry on extensive investigations of the blood dyscrasias.

Eve's halometer[1] for measuring the average mean diameter of erythrocytes is so simple an instrument that, if it is proved accurate for general clinical use, measurements of the red blood cells may be included in routine examinations of the blood, and the information so obtainable will be familiar to all who practice medicine. Three hundred blood films from some two hundred different cases have been measured by Eve's method, and the results compared with those of other investigators using the already well-established methods. The findings have been grouped according to the relative importance of the disorders in which they occur.

Historical.—Two methods of measuring the size of erythrocytes have been in use some years. The original method was the use of the micrometer to measure the diameters of the cells by direct observation. Each cell, one after the other, is brought into focus under the microscope and measured. Usually two hundred cells are examined. Price-Jones[2] has developed a different procedure. The images of the cells are projected and drawn. The tracings of two hundred to five hundred cells are carefully measured and the diameters of the cells calculated. Such a blood examination occupies about four hours' time.

In 1924 Pijper[3] described the eriometer. A blood film is used as a diffraction grating, and the colored haloes so formed bear a constant relationship to the size of the red cells. Only the mean diameter can be obtained by this method, but this may be from over one million cells. It is interesting to note that one hundred and seven years ago Thomas Young [4] used an eriometer which he discussed in some detail. He measured a great number of objects, including the blood corpuscles of animals and of man. This was apparently forgotten for nearly a century.

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[*] From the Stanford University Medical Service at the San Francisco County Hospital and the Laguna Honda Home.

[*] Read before the Pathology and bacteriology Section of the California Medical Association at the fifty-ninth annual session at Del Monte, April 28 to May 1, 1930.

The Halometer.—In 1928 Eve [5] adapted the same principles to his halometer, and made the method available for general use. An ordinary stained or unstained blood film is used. Illumination is obtained from an electric bulb and battery contained within the box. The slide is clamped over a small hole in one end. Mirrors are so placed within the box that two haloes are produced. When the red margins of these two haloes are brought together by means of a sliding scale so that they are just touching, the angular magnitude is recorded in degrees. This is readily transposed into microns from a table. This gives the mean diameter of all the cells included within the beam of light, which is the only measurement dealt with in this paper. The average is of several thousand cells, and a series of three readings takes about one minute.

It has been shown that the diameters of erythrocytes, both fresh and dry, are essentially the same.[6] A section of the film must be chosen where the cells do not overlap and where they are not crenated. Oil on the film interferes with the observations. In a case of leukemia when there is a marked increase in the number of large white blood corpuscles, it must be remembered that these cells are included with the red cells, giving an abnormally high reading. Marked anisocytosis will produce very irregular haloes which may be difficult to approximate accurately. Practically the same blood film used for the differential count has nearly always proved quite satisfactory. An average of three readings from different parts of the film are taken, the limit of error being about one-tenth of one micron.

Disorders producing changes in erythrocyte morphology are usually grouped according to whether large, normal, or small-sized corpuscles predominate. I have arbitrarily grouped the disorders relative to their seeming importance in medical practice, giving scant attention to a variety of conditions in which variations in morphology occasionally occur and are of no proved practical value at present.

Normal Erythrocytes.—The mean diameter for normal erythrocytes has not yet been agreed upon. Jorgensen and Warburg [7] have recently pointed out the difficulties involved. The usual normal figure varies between 7.2 and 7.7 microns. Many observers accept 7.5 microns, although there is considerable evidence that the figure is nearer 7.2 microns. Von Boros [8] states that if the average size of the cells is less than 7.0 microns the condition should be classed as a microcytosis, and if it is greater than 8.0 microns it should be classed as a macrocytosis. In other words, cell averages that are not between 6.9 and 8.1 microns are abnormal. This is generally true although there are occasional border-line cases. Young children have slightly smaller red cells than adults.[9] Sex and race have no influence on the size of the blood cells.

Table 1.—*Erythrocyte Morphology in Normal Blood Counts Compared to Those of the Anemias*

	No. of Cases	Mean Diameter of R. B. C.	Limits of Variation
Normal blood counts	100	7.4 microns	6.8 microns to 8.0 microns
Secondary anemia (all types)	50	7.2 microns	6.7 microns to 8.3 microns
Addison's anemia	23		
Untreated	15	8.6 microns	8.3 microns to 9.0 microns
Treated with liver (normal blood counts)	11	7.8 microns	7.4 microns to 8.1 microns

Blood films have been examined with the halometer in one hundred cases in which there was no evidence of any abnormal condition of the blood. The average reading for these normal erythrocytes is 7.4 microns by this method. The figures ranged from 6.8 to 8.0 microns (Table 1). Only four per cent were below 7.0 microns and only three per cent were 8.0 microns. It may be concluded, then, that the halometer is sufficiently accurate for general clinical use, as the average figure of 7.4 microns compares favorably with those determined by other methods.

Secondary Anemias.—Most secondary anemias show normal average red blood cell diameters, but with a greater variation from the normal. Gram [10] in a small series of cases gives the normal average as 7.5 microns. Measurements of fifty cases by the halometer showed an average of 7.2 microns. The figures ranged from 6.7 to 8.3 microns (Table 1). Ten per cent showed microcytosis, while eight per cent showed macrocytosis. These figures show a tendency toward a slight decrease in size in red blood cells for a miscellaneous group of cases of secondary anemia.

Primary Types of Anemia.—The morphology of the erythrocytes is of the greatest value in the diagnosis and treatment of Addison's anemia. Macrocytosis is very constant and is of more importance than the gastric achlorhydria, because when it is present to a marked degree it is pathognomonic of this condition, or of the allied conditions of subacute combined sclerosis of the spinal cord, and sprue. Practically all untreated cases with anemia show cells with a mean diameter greater than 8.0 microns. Von Boros [8] has thoroughly reviewed erythrocyte morphology in so-called primary anemia, and presents measurements in a large group of cases. Cases in the preanemic stage with normal hemoglobin and red cell counts, and cases in remission also with normal counts usually still show a macrocytosis, which is often pronounced. Consequently cases may be detected by measurements of the erythrocytes before anemia sets in. Just how long is not known.

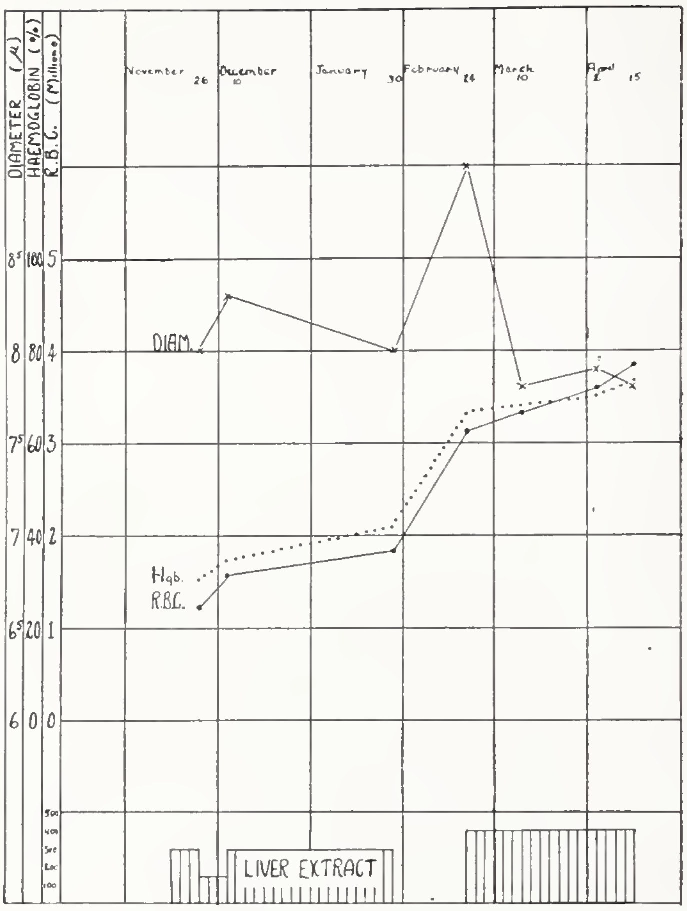

Figure 1.

When a case is in remission the cells tend to get smaller, reaching a normal high range in perhaps one-half the cases. Only rarely does the average come down to 7.4 microns. When the cells are very large the disease runs a more favorable course than when the cells are not much increased in size.[6]

Twenty-three cases of Addison's anemia have been studied by means of the halometer. Fifteen untreated cases showed an average diameter of 8.6 microns; the readings varying from 8.3 to 9.0 microns, except for one case with a reading of 7.9 microns (Table 1). In eleven cases with normal blood counts which had received treatment with liver, the average was only 7.8 microns; the variation being between 7.4 and 8.1 microns.

These figures demonstrate three points very clearly: (1) All untreated cases were characterized by a marked macrocytosis, with only one exception when only a moderate increase in size was found. This is in marked contrast to normal individuals and to those with secondary anemia, although the moderate macrocytosis in a few cases of secondary anemia overlaps the few cases of primary anemia, showing only a slight increase in red cell diameter. (2) Those cases treated with liver have erythrocytes which are much smaller on the average than those untreated. (3) After treatment the red blood cells may actually reach a normal size, but in no instance are they smaller than the average normal. A case, then, treated or untreated, which shows microcytosis cannot be a case of primary anemia.

The relationships between the degree of anemia, the average diameter of the erythrocytes and liver therapy are depicted graphically in Figure 1 and Figure 2. (I am indebted to Dr. H. A. Wyckoff and Dr. A. L. Bloomfield for a considerable part of the data presented in Figure 2.)

Fitzhugh and Persons[11] have shown that toward the end of the first week after starting adequate liver therapy in a case of Addison's anemia the red cells, both adult and reticulated, are considerably reduced in diameter. This parallels the increase in the per cent of reticulocytes. When they are at a maximum the erythrocyte diameter approaches the normal range. Also as the reticulocytes become reduced during the second week, macrocytosis becomes marked again, to be gradually reduced during subsequent weeks. This phenomenon was readily detected by the halometer readings, as may be seen in Figure 2.

Subacute combined sclerosis of the spinal cord, with or without anemia, always shows the same characteristic macrocytosis that occurs in Addison's anemia. The following case is a striking example of the importance of this point.

REPORT OF CASE

A woman of fifty-two slipped and fell down while doing housecleaning work and struck her lower back. She claimed to have been quite well previously. Subsequent to the accident she lost her balance frequently and had stiffness, numbness and contractures of the legs. She was unable to work and claimed industrial insurance. Examination failed to reveal any injury to the spine, but there were neurological changes in the lower limbs suggesting subacute combined sclerosis. There was no anemia, but gastric analysis revealed an absence of free HCl. A halometer reading of her erythrocytes was 8.6 microns. As such a macrocyto-

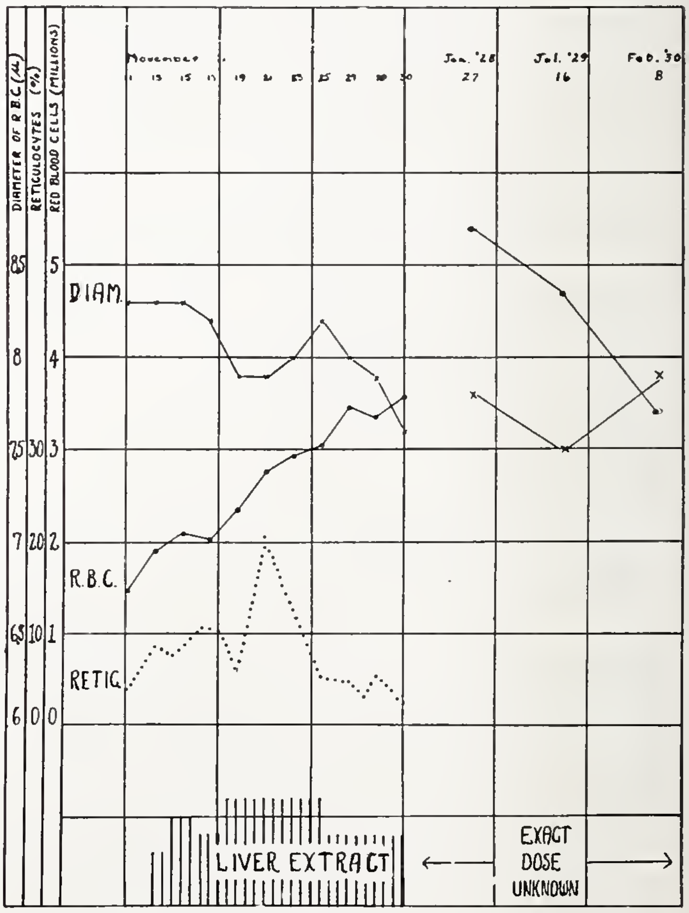

Figure 2.

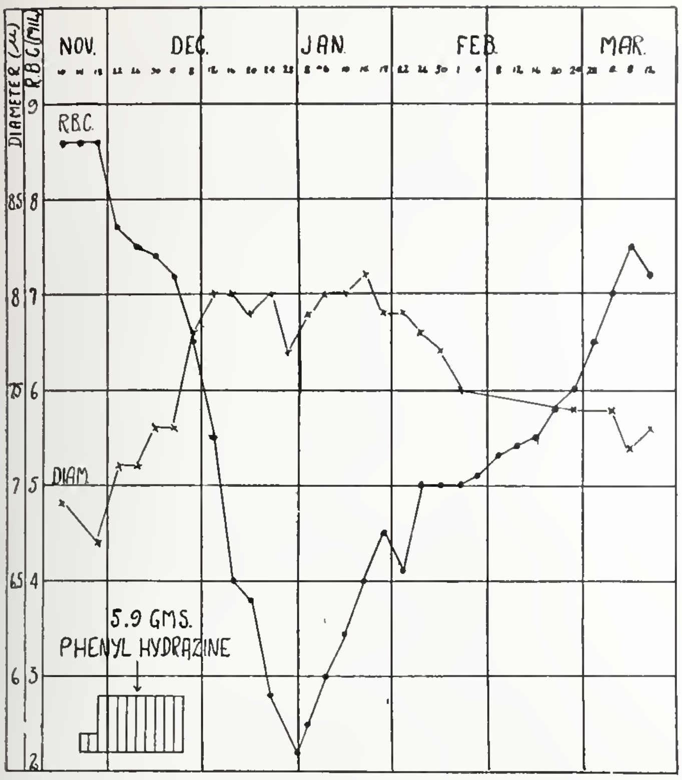

Figure 3.

sis does not occur normally, the diagnosis of subacute combined sclerosis was established and it was assumed that she fell down and had her complaints because of the preëxisting disease.

The same characteristic macrocytosis occurs in both sprue,[12] and in those harboring the fish tapeworm,[6] whether anemia is present or not. There are no such cases in this series.

Erythrocyte Morphology in Other Conditions. Red blood cell measurements are of real value in the diagnosis of familial and acquired hemolytic jaundice. Microcytosis is a constant finding in the inherited cases, and is usually present in the acquired ones. It is as characteristic as the increased fragility. This is in marked contrast to other types of jaundice which show a tendency toward macrocytosis, although the erythrocytes are usually within normal limits, and practically never show microcytosis. There has been no opportunity to study this rare disease by means of the halometer.

Measurements of the erythrocytes are of considerable value in several conditions in which they may be helpful in differential diagnosis. The type of secondary anemia which most commonly produces cells slightly above normal size is that following hemorrhage. Consequently a slight macrocytosis in a case with a low color index suggests bleeding as the cause. However, there are other types of anemias which may rarely show this same tendency. Such cases may be confused with primary anemia. Septic infections are likely to produce a microcytosis.

In primary erythrocytosis or polycythemia vera, normal values are the rule, but about five per cent have a pronounced microcytosis. Figure 3 shows the remarkable changes in size of the red cells in a case treated with phenylhydrazin. Coincident with the hemolysis and fall in the red count the cells grow larger and larger and approach the proportions of those in primary anemia. When the effect of the drug is over the cells return to their previous size. In secondary erythrocytosis the red cells are normal, or even large. There is a tendency toward macrocytosis in malaria, probably due to the same mechanism as in the case represented in Figure 3.

A great deal has been written in the foreign literature on the value of macrocytosis in the diagnosis of chronic interstitial pancreatitis.[13 14] It also occurs in cases of cancer of the pancreas, as such a change was found in two cases in this series. Macrocytosis is also fairly common in cirrhosis of the liver, though never to a very marked degree. Diabetics show no definite changes in the red cells.

Measurements of the mean diameter of the red cells are of very doubtful value in endocrine disorders, leukemia, aplastic anemia, agranulocytosis, bone metastases from malignant tumors and infantalism, although certain inconstant changes have been reported in these disorders.

CONCLUSIONS

1. The halometer measures the mean diameter of erythrocytes sufficiently accurately to meet all practical purposes.

2. The determination of the average size of the red blood cells is essential to the investigation of a case of Addison's anemia, as a marked macrocytosis may in itself be diagnostic of the condition.

3. A study of the morphology of the erythrocytes is important in the diagnosis and treatment of many disorders of the hematopoietic system.

4. The facility with which the halometer can be used should stimulate a more general study of erythrocyte morphology and bring a better understanding of this important subject into the general practice of medicine.

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DISCUSSION

W. T. Cummins, M. D. (Southern Pacific Hospital, San Francisco).—An accurate and practical method of determining erythrocytic measurements is obviously highly desirable. The diameters of normal cells vary and there is no unanimity as to the average. Although the discusser has had no direct contact with Eve's halometer, he believes that the apparatus is the most practicable and, if proved to be accurate, it is probably the best that has been devised. Results would seem to justify the thought that its chief practical value lies in the early differentiation of the primary from the secondary anemias and with the reticulocytic counts also in the measuring of liver therapy. Pernicious anemia seems to confront us at almost every turn, and an early diagnosis is much more desirable than a late one. The technique should be of value to us in those cases also in which reduction of hemoglobin and erythrocytes has been well marked for some period of time and repeated examinations of blood films have failed to establish clearly a diagnosis. Doctor Cheney has made a large number of determinations and has presented the topic concisely and well. More investigators and extensive investigations must settle the problem.

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E. M. Hall, M. D. (School of Medicine, University of Southern California, Los Angeles).—So numerous have the clinical laboratory procedures become in the past few decades that any proposed addition to this number must be rigidly examined before adoption as a standard procedure. Whether or not the measurement of erythrocyte diameters is of sufficient diagnostic value in certain diseases of the blood to merit its adoption as a routine test appears to be the question demanding solution.

According to Doctor Cheney, the test is now simplified by the use of Eve's halometer so that it is quickly and easily done and apparently with considerable accuracy. Its greatest use will, no doubt, be in the differentiation of pernicious anemia from other types of anemia. Although pernicious anemia produces a well-defined syndrome which manifests itself in the well-known changes in the skin, tongue, stomach, blood, and in the central nervous system, none of these changes are pathognomonic. If macrocytosis is pathognomonic of pernicious anemia and if, as is claimed by Eve, Price-Jones, and others, it is present before there is any well-defined anemia and before the characteristic blood or spinal cord changes are manifest, then the test would seem to be a justifiable addition to our laboratory methods. Variation in size of red cells is probably just as important as increase in average size. I have had no personal experience with the halometer. Further investigation along the lines Doctor Cheney has followed would seem to be desirable.

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H. A. Wyckoff, M. D. (Stanford School of Medicine, San Francisco).—Methods, so far devised, for measuring the diameter of red cells have been too laborious and time-consuming to admit of wide application, and it seems reasonable to expect that the advent of a relatively simple method will provide a useful addition to hematology.

Information as to interpretation and reliability of observations with the halometer can, of course, be obtained only by actual use, and Doctor Cheney's paper is a valuable contribution to this information.

A very limited experience with the halometer but a rather extensive observation of the kind of smears some workers seem to regard as acceptable for blood study leads me to expect that halometer readings will not prove trustworthy except in the hands of those willing to exercise care in the selection of suitable smears. I also suspect that a wider experience with the instrument will reveal sharper limitations in its use than we may at present realize.

DERMATOLOGICAL NEUROSIS*

REPORT OF CASE

By C. Ray Lounsberry, M. D.
San Diego

Discussion *by Samuel Ayres, Jr., M. D., Los Angeles; H. C. L. Lindsay, M. D., Pasadena; Merlin T. R. Maynard, M. D., San Jose.*

Abnormal mental states have been produced many times by abnormal dermatological conditions. This fact is especially true if the individual has a hereditary stigmata of mental disease in the family. Such functional disorders of the nervous system are not dependent upon any discoverable lesion of the brain or spinal cord or peripheral nervous system. The patients, however, have practically all the neurotic symptoms of a definitely diagnosed mental case. The constant stimulation of the peripheral nervous system bombarding the internal nervous mechanism produces exaggerated responses in the form of hypersubjective sensations.

SKIN AND CONSTITUTIONAL CONDITIONS

We often see mental patients who trace their etiology directly to some neurosyphilitic condition, and associated therewith we have cardiovascular and renal diseases. Such lesions are easily understood. Ofttimes, however, we get all of the neurosyphilitic symptoms with a negative luetic history; then we have a different problem to deal with. In our search for etiological factors which may help us understand these conditions, as modern dermatologists we must not forget that the skin is a system which is not isolated from the rest of the body; thus, mental states may produce abnormal skin sensations, and vice versa. This thought was brought out clearly by Eller when he stated in the May number of the *Medical Journal and Record*: "Distributed in the skin are nerve fibers which receive sensations of pain, temperature, and touch. The body adapts itself to changes in its environment as a result of reflexes originating in these terminal receptors. The skin, therefore, may be looked upon as an organ of importance which is constantly under the control of the central nervous system."

We know from our study of neurological literature that one of the most important factors in the etiology of the dementia praecox group of mental diseases is heredity. Wolfsohn, in his analysis of 2215 admissions at Bergholzi Asylum in Zurich, found that 90 per cent of his patients showed hereditary stigmata, while 10 per cent showed other causes which included nervous diseases as well as other organic troubles. The catatonic forms were influenced mostly by this discovery, while the combination of the hebephrenic and catatonic groups were influenced also.

REPORT OF CASE

As the condition from day to day of the patient here reported was observed, the symptoms of a dementia praecox of the manic-depressant type were increasingly evident. She apparently had developed an associational disturbance which was manifested by a splitting of her personality. However, these symptoms were not always present because she seemed perfectly lucid in her thoughts and actions at times. Often her mental reactions would take her far away from actualities—into a beautiful land of dreams and she would imagine that she had the most perfect skin in the world, an idea which was in harmony with her beautiful gowns.

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* Read before the Dermatology and Syphilology Section of the California Medical Association at the fifty-ninth annual session at Del Monte, April 28 to May 1, 1930.

Her emotional reactions were those of a typical manic-depressant form of dementia praecox. She would withdraw from reality and lacked interest in her home, her family, and her friends. She constantly had signs of disturbed orientation and her memory was disordered. Prior to her acute attack she was a profound thinker with a fine memory. Of course her lack of interest and attention at the time of her illness could have produced disturbances in memory and orientation. She had delusions, mistaken convictions which manifested themselves in the thought that she was grand and beautiful. She constantly had hallucinations and illusions and at times she went into a catatonic state of stuporous rigidity; thus, she combined the hebephrenic form with the catatonic phase of the disease. She had the physical symptoms of a dementia praecox and at times would have circulatory-cardiac respiratory as well as vasomotor symptoms. One time during an acute attack she had a typical convulsive seizure, hysteriform in nature. Her perceptions were perverted and misinterpreted. For example, the tiles on the hearth curled up and assumed physical forms, becoming animated objects which walked to her.

Depression was interrupted by periods of extreme mania. During one of her manic attacks she decided to kill her step-son. No doubt she would have done it if she had not been guarded. Prior to her attack she apparently loved this five-year-old boy, but in some mysterious manner she felt that he was coming between her and her husband, robbing her of his affection. She felt that she was becoming uglier in his sight and determined to kill herself. She realized that he ultimately would leave her if her skin state became any worse.

Her early childhood was abnormal to a great degree. Her father was a mental case before her. She not only had inherited a weak physical body, but had inherited a mind which upon provocation could easily become slightly unbalanced. Through her school days she led her classes, graduating with honors from college. She never went to the college dances, nor did she have the normal social life of a typical American college girl because of her horrible skin condition. After graduation at the age of twenty-one, which was an early age to receive a degree, she met and married a very handsome man, a widower who apparently cared a great deal for her. They were happy in the beginning of their married life, but then her dermatological condition became worse. She complained of all of the symptoms of a severe case of oozing, exfoliating dermatitis. It was at this time that her mind became affected.

She became neurasthenic to a marked degree and in rapid progression the above symptoms of a typical dementia praecox developed. I placed her in a mental disease hospital and called in a neurologist to assist me in her supervision.

The treatment of the patient naturally divided itself into dermatologic and neurologic divisions. Dermatologically, the routine methods of treating an exfoliating dermatitis, such as electrotherapy, soothing lotions, compresses of aqueous solutions, ointments, pastes, and powders were used. She was treated internally with iron, arsenic, atropin, and internal secretory extracts and, if indicated, with sedatives, hypnotics, and even with narcotics. She was given citrocarbonate, phosphosoda, as well as calomel; in fact, all the recognized methods of treatment were tried. Her mental reactions were associated very closely with her dermatological symptoms. When her skin cleared, her lucid moments appeared. Therefore the task before us was to clear up her dermatological state.

The consulting neurologist treated the symptoms of the lower levels, for example, the excitement stages, with hydrotherapy. Drugs were resorted to only when absolutely necessary. Small doses of atropin were given to obtain vegetative nervous system control.

In the treatment of the higher levels psychotherapy was used. By means of constant kindness and proper mental suggestion, definite results were obtained.

She was very much improved when she left our city. Her skin apparently had cleared and a similar improvement took place as regards her mental symptoms.

1111 Medico-Dental Building.

DISCUSSION

Samuel Ayres, Jr., M. D. (315 Westlake Professional Building, Los Angeles). — Doctor Lounsberry has called attention to a very interesting condition. In the case cited, a patient with an unstable mental background was thrown completely out of balance by the psychic effects of a cutaneous eruption. This case emphasizes a relationship which is seen not infrequently but to a lesser degree. Many instances have been noted where a severe case of acne has produced profound psychic changes, the patient becoming depressed, introspective, and at times completely altered mentally. At other times a patient will seek medical advice for a cutaneous disorder of a trivial nature in itself, but due to the patient's mental reaction to the lesion, it may occupy a place in his thought and imagination out of all proportion to its real nature. These patients should be treated with kindly interest and should be made to feel that their troubles are being given proper attention; under no circumstances should they be laughed at.

While it is true that skin disorders may produce mental disturbances, especially in unstable individuals, the reverse is also true. Mental disturbances, emotional conflicts, anxiety, worry, etc., often lead to a variety of skin eruptions. The more well known types, dermatitis factitia, may be produced in a variety of ways and for a variety of reasons. Some patients produce artificial eruptions by the application of acids, by scratching with a needle, etc. Sometimes this is done to recover compensation, at other times to satisfy an egotistical desire to attract attention, sympathy, or simply to mystify. Occasionally a feeling akin to sex gratification is achieved; some patients produce these lesions apparently while in an amnesic state. The clinical entity of "neurotic excoriations" is becoming better recognized. Then there are undoubtedly many instances of "toxic" eruptions of an erythematous or eczematoid nature due to the influence of emotional stimuli active through the involuntary nervous system, and interfering with the various digestive processes, etc., leading to the formation of toxic metabolites.

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H. C. L. Lindsay, M. D. (54 North Madison Avenue, Pasadena). — Undoubtedly abnormal mental states have been produced by pathologic conditions of the skin. The majority of so-called insane skin cases have become insane because of congenital defects or tendency to insanity and not insane because of skin disease *sui generis*. The disease of the skin is more of a coefficient than an actual cause; however, in some rare cases the skin disease appears to be the actual cause of marked mental disturbance. I have at present a patient with mycosis fungoides whose mental instability developed in the fourth year of the disease. We often see intensely neurasthenic individuals who date the nervousness from the onset of a skin rash.

Mental states may produce abnormal skin conditions, and vice versa. One writer says that he had a patient who claims that she broke out in a rash every time she was kissed. The erythema produced by blushing is also typical of what a mental state may produce on the skin. The nervous mental tension of the debutante suffering from severe acne vulgaris is symbolic in a mild way of the effect the skin has on the mind. The thick brown insensitive skin of the cretin is not the result of his sluggish mentality, but due to his lack of endocrins from his thyroid. This shows indeed the possibility that an irritative factor or toxic element independent of the skin or mental processes, but which reacts adversely upon both, may be erroneously interpreted as the one in the case of the skin being the causative element of disease in the other.

Certain skin diseases, such as Raynaud's disease, lichen planus, herpes zoster, and alopecia areata, have or are suspected of having nervous causes or nerve involvement. This may be coincident but somewhat substantiated, since improvements have been known to take place in Raynaud's disease from sympathectomy, and amelioration of lichen planus from spinal puncture. Certain cases of alopecia areata and herpes zoster limit affected areas to distribution points of nerves.

Phobias are occasionally causative of dermatitis iactitia. A man who suffers from formications may be deluded into believing that he is digging bugs from his skin and may persist in this thought notwithstanding ample microscopic demonstration to prove his error. Syphilophobia is one of the most frequent types to be met.

Malingerers, who, for purposes of producing sympathy, securing insurance or pensions, injure themselves are almost uncanny in their pervert cleverness in mystifying physicians. Usually, however, they overdo things. The lesions are most often on parts that can be reached by the hands, and inaccessible parts escape damage. There are exceptions to this rule, of course.

The relationship between the rash of secondary syphilis and the development of neurosyphilis is interesting since neurosyphilis is less apt to develop if the rash has been abundant: in short the skin rash seems to confer a certain immunity upon the nervous system.

It is a fact that many drugs, such as pyramidon, acetanilid, barbital, gold, and bromids, which are prone to produce skin rashes, are sedative to the nervous system.

Doctor Lounsberry's paper interests us all. Most cases of extensive exfoliative dermatitis are extremely nervous, and I can well conceive how the extra strain would completely unbalance a mental defective.

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Merlin T. R. Maynard, M. D. (407 Medico-Dental Building, San Jose).—Dermatological neurosis as a subject opens a wide field for discussion, but in general we may state the association of dermatitis and a neurosis occur under the following heads:

1. The neurotic tendency is present prior to the eruption; or
2. The dermatitis is produced voluntarily by the patient with the mental defect.
3. The dermatitis produces the mental defect.
4. The mental disease and the dermatitis are together a part of the system complex.
5. The dermatitis is due to an associated nerve disease.

In the first group the individual is already a mental inferior, and the neurotic tendency or mental disorder is brought out with the dermatitis acting as a focus of attention or as a traumatic influence on the neurological system.

In the second group the patient is already a victim of the dementia and seeks, through aggravating or producing eruptions, to gratify their various desires.

In the third group, I believe it is rarely possible to produce a dementia through extreme suffering and exhaustion unless there is a preëxisting tendency.

In the fourth group the best example is pellagra, in which a generalized disease affects both the skin and the nervous system through one general pathological agency.

The dermatologist sees patients in these various groups. Doctor Lounsberry's case is one of the more striking of the various types. Much can be said on the subject, but I believe that the patient with a good mental heritage will never succumb by way of his nervous system to even very severe dermatoses in spite of their duration and symptomatology.

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Doctor Lounsberry (Closing).—In closing the discussion I wish to state that such cases as the one described appear frequently in our office practice and we, as trained dermatologists, must not only be skin specialists, but we must also be dermatoneurological internists and must cope with these abnormal internal states presented.

This case again portrays the need for review of the neurological literature. Doctor Stokes recently brought out this point to me while discussing dermatology in general. He maintains that if dermatology is to go forward in the future, we, as dermatologists, should not cease to be efficient internists.

THE LURE OF MEDICAL HISTORY

THE EXTRA ACADEMIC ORIGIN OF MEDICAL SPECIALTIES*

PART II

By LeRoy Crummer, M. D.
Los Angeles

OBSTETRICS.—Obstetrics, now properly considered the third element of the triad of proper medical training, remained longest beyond the cognizance of the regular profession. But here again the revelation of a family secret must be noted as the determining cause in allowing the man-midwife to overcome the superstitions of centuries. The first book dealing with this subject was the "Rosengarten" of Eucharius Röesslin, written entirely for the midwives; Röesslin, city physician at Frankfurt, famous already for his treatment of syphilis, is supposed to have written the book at the direction of his exalted protectress, Catharine, Princess of Saxony, with the intent of giving some form of definite instruction to the ignorant midwives of the period. It appeared in 1513, and was probably the most successful medical book ever published if measured by the number of editions and translations. There must have been some two hundred editions within a little over a century, and it was translated into practically all languages, for the most part still as a guide for midwives, but written up at times for the regular profession, and more frequently written down in an appeal to the ignorant superstitions of the man and woman around the corner.

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*Introductory lecture in the recently established department of medical history, Medical School of the University of California. For Part I, see December, California and Western Medicine, page 888.

The English translation, under the title "The Birth of Mankynde," was first issued in 1540, went through twelve or thirteen editions, and was published even after Harvey began his epoch-making researches on generation.

Of almost equal popularity was "La Commare," first edition 1596, the work of the Dominican monk, Scipio Mercurio, which took up the burden of instruction to midwives during the waning popularity of the "Rosengarten," and continued successful for nearly another century. There was a complete succession of male authors who considered this subject upon purely theoretical grounds, although it must be admitted that both Paré and Guillemeau, his son-in-law, describe personal experience in their books devoted to this subject, but this succession of theoretical writing by men was interrupted by a practical book offered from the pen of a woman, Louise Bourgeoise, who, in 1609, published her book on "Accouchments," dedicated to the Queen Mother, Marie de Medici, which detailed the position, presentation and length of labor of four children destined to become kings of France. Another midwife, who wrote up her practical experiences for the benefit of her class, was Justine Siegmundin, who, in a handsomely illustrated book, "Hof-weh-mutter," first published in 1690, rose to much greater heights than her predecessors, and was surpassed in illustration only by another midwife, Madame de Coudray who, nearly a century later, utilized the newly discovered color printing and illustrated her book with tinted copperplates showing position and presentation.

The employment of midwives was universal, and physicians and surgeons were called only when complications were found, and the consultants' principal methods of attack were the horrible mutilating operations fatal always to the child and usually to the mother. Some time in the early part of the seventeenth century a family secret again changed the course of the development of a branch of medicine; this "secret" was the obstetrical forceps invented by one of the Chamberlains, probably Peter, some time about 1620. This Peter Chamberlain was a member of the Guild of Barber-Surgeons; his son was admitted as a Fellow of the Royal College of Physicians in 1628, but dismissed from the Fellowship in 1629 for reasons which might be considered inadequate at the present time; another descendant, Hugh Chamberlain, was made a Fellow in 1694, and obtained signal honors in the College and was considered the most eminent man-midwife of his period.

The definite progress of the time is well shown in this varying attitude of the College toward the possessors of the "secret" which had become more or less common knowledge by the end of the seventeenth century.

The immortal Harvey indicates in many places in his "De Generatione," 1651, familiarity not only with parturition, but also with the various conditions arising during pregnancy, and is today considered the father of the British School of Midwifery, and his discoveries in this field are placed by many authorities on an equal footing with his demonstration of the circulation.

The victory of the man midwife was not entirely won during this period, nor has it been won even today. The conflict in England, especially in the seventeenth and eighteenth centuries, gave rise to a hectic battle of pamphlets, caricatures, and much personal animosity, with science fighting against tradition, and the deep-seated feeling that a woman should only be attended by a woman is not yet entirely eradicated.

Orthopedics.—Orthopedics was definitely adopted into the surgical fold by Audrey, a professor of Paris, who wrote the first formal book on the subject about 1725, though the earlier popular barber-surgeons had by no means neglected the discussion of methods of correcting deformities. Paré, of course, included these conditions in his marvelous discussions of surgical problems, and he pictured methods of replacement of lost members of all sorts, including not only artificial noses, ears, and hands, but even "yards." Fabricius of Acquapendente in his "Opera Anatomica" has a beautiful copperplate illustration of a brace whose complications and ingenuities might make even the most modern orthopedist envious. Even back of the barber-surgeon stood the highly technical armorer, whose ingenious attempts to supply artificial hands and legs are marvels of mechanical ingenuity. Fracture boxes and complicated mechanical aids for the reduction of dislocations were a part of the attractive illustrations of even the earliest works of the barber-surgeons.

Laboratory Work.—The early prototype of the modern laboratory diagnostician is found in the uroscopist. It is quite true that "Seeing of Urines" was based upon extracts from the classic authors, especially Avicenna; but the popular appeal of this mystical method of diagnosis was so great that an immense literature, popular and professional, for and against, was printed throughout the entire sixteenth century, and it was only much later than this that the negative evidence concerning the value of the procedure prevailed and the method was frowned upon by the regular profession. So common was the custom in the early days of printing that the urine glass in the hands of the physician of the long robe became symbolic of the profession. Such an easy method of making a diagnosis was, of course, seized upon by the charlatans, and the mountebanks, and the booth of the urine seer was a part of every fair and street carnival. In fact, in certain rural districts of England, the old urine seer and his glass are still a part of the County Fair. An anthology of the books written on this practice would disclose quotations from most of the learned writers as well as the poets, and so little change takes place in the minds of men that every year type jokes from the oldest time are revamped and told in the barber shops and smoking compartments, and one has recently been used even on the legitimate stage.

Shakespeare plays upon this custom in "Twelfth Night" and in "King Henry IV." Falstaff says:

> "Sirrah, you Giant, what says the doctor to my water?" To which the page replies, "He says, sir, the water itself was a good healthy water, but, for the party that owned it, he might have more disease than he knew for."

So far as I know, no bibliography of this type of book has been written, and no earnest search has been made to determine even the number and classes of these books, nor even a discussion of the principles of division between those written by the professor for the profession, and the barber-surgeon for popular consumption, but there were at least fifteen editions of the first English book on this subject: "Here Begy/nth the synge of Ury/nes of all the couloures that/urynes be of, with the me/dycines annexed to euery/uryne & euery ury/ne his urinel much/profitable for euery/man to knowe." Each edition is known in very few copies, and the German popular books on this subject are equally numerous and equally scarce.

The microscope, too, was an invention entirely outside the range of medical thought. Though probably known to Roger Bacon in the thirteenth century, the microscope itself was rediscovered by a spectacle maker in Holland about 1620, and immediately put upon the market. Most of the early discoveries by means of this instrument were made because of the fascination of the instrument as a means of indoor amusement. Kircher, more priest than physician; Swammerdam, an assistant in his father's apothecary shop, and van Leuwenhoek, brewer's son and inn keeper, all made important discoveries by the use of this toy which have been absorbed in the framework of medical tradition. On the other hand, two physicians, Nehemiah Grew and Marcello Malpighi, contributed to the first great era of discoveries made by the microscope. These additions to medical knowledge were done in the latter quarter of the seventeenth century, and the first years of the eighteenth, and the microscope itself all through the eighteenth century was sold as an amusing toy, with prepared mounts of various small animals, vegetables, and minerals, for the amusement, and perhaps the education, of those attracted to the new and novel.

Chemistry.—Chemistry was the direct outgrowth of alchemy, which had its devotees even among those high in the profession, but whose greatest patron was the Emperor, Rudolph II, of Germany, who attracted many of the greatest alchemists of the time to his castle in Prague. In the vain but expensive search for potable gold, and the philosopher's stone, he spent a tremendous fortune in providing sharpers of all types with apparatus, and opportunity, but as an unexpected outcome of his vain desires there emerged the true birth of chemistry as a modern science, through Libavius, who went to Prague to read an essay on "Aurum Potable" and returned to Coburg to write his "Alchymia" in 1595, which is now regarded as the first systematic treatise in chemistry. This in turn led to an extravagant belief in the benefits of the new discovery, and it was exalted to a medical philosophy by the "Iatrochemists" of whom the founder and chief priest was Johan Baptiste van Helmont, first a Capucian friar, and only later in life a physician.

Anatomy.—In recent years there has been a tendency to rob medicine of the honor of developing proper early discoveries in anatomy. This is mainly due to the publication of the lost drawings of da Vinci, which show him a most excellent anatomist, and perhaps with a knowledge of function and motion superior to Vesalius. Raphael, Michelangelo, and Rossi de Rossi, are known to have done dissections, which were used for drawings, engravings and paintings, but only for individual use, without any attempt to produce systemic anatomical investigations or records, so that in spite of these very attractive drawings and prints, the honor of making anatomy a part of medical science must still be given to Andreas Vesalius, who did everything that these artists had done, and in addition systematized his work and offered it in the form of a printed book, which is one of the most beautiful and important publications of all time.

Therapeutics.—In therapeutics many of the effective discoveries were made outside of the profession. The story of quinin is particularly interesting. First known as Peruvian bark, it was sent to France and Spain by the Jesuits and was exploited by them as a specific for ague, on the basis of the cure of the Countess of Chinchon, wife of the Viceroy of Peru. All modern methods of propaganda were used to promote the sale of the bark, which was then a monopoly of the Jesuits, and even a corner was established similar to but more successful than the modern attempts to form a corner in grain products. It remained for Robert Talbor, an apothecary's apprentice, to hit upon the happy expedient of dissolving the bark in claret to make the administration more palatable. By a lucky chance he cured Charles II of England, who in turn recommended him to Louis XIV of France, and he was so successful there that his secret discovery was purchased by Louis and given to the world in a little book called "Pretologia," 1672. In the meanwhile, of course, Sydenham had conducted experiments with the drug, but when he wrote of it in 1668 he was without enthusiasm, but with greater experience in 1676 he had come to the conclusion that the bark was a specific for ague.

Digitalis also had an origin outside of medicine. While Withering brought it to the attention of the profession, his first knowledge of its efficacy was obtained from a neighborhood woman herb doctor, who had had great success in treating dropsy with a concoction made up of all the herbs of the country side. Withering took his cue from her success, and carefully determined that foxglove was the effective ingredient in her mixture, and in his book, "An Account of the Fox Glove and Some of Its Medical Uses," 1785, established digitalis on such a rational basis that but little has been added since, as to efficacy, indications for or mode of administration of this particular drug.

Many other drugs of vegetable origin were discovered by the herbalists, and other types of irregular practitioners. The doctrine of signatures, which, simply expressed, was that nature had prepared a sovereign cure for every disease which was to be recognized by the initiated from some fancied similarity or symbol inherent in the plant. This school of healing was responsible for practically all investigation into the nature of vegetable drugs for many centuries, and found its final and greatest exponent perhaps in an early American quack, Thompson, whose ideas overwhelmed our United States during the first half of the last century. His book went through innumerable editions, and his ideas became the basis of the "eclectic medicine," a schism only recently disappearing from medical education.

Anesthesia—Laryngology.—Many of the more modern things now utilized in every practice were discovered outside of the profession. We owe anesthesia to a dentist, Morton, for in spite of investigations which may place the original discovery of the effect of ether in the hands of Hicks of England, or Long of Georgia, the publicity was obtained through the efforts of Morton, whose experiments at Harvard brought the method to the attention of the profession the world over. Laryngology is based on the discovery of the laryngoscope in 1855 by Manual Garcia, a Spanish singing teacher, resident in London.

Bacteriology.—Pasteur, the founder of bacteriology, was a chemist. Roentgen of x-ray fame was a physicist; the Curies, who brought radium to the attention of the world, had no fundamental interest in medicine, and although Ehrlich was a graduate in medicine, it is said that he obtained his degree by the narrowest of margins, and his interests as well as his discoveries were entirely in the field of higher chemistry. If to these might be added the discoveries important in our daily practice, made by the country doctor, it might emphasize the theme I hold. Koch was health physician in a small German town when he discovered the tubercle bacillus; Syms, a country practitioner, when he originated those methods which were the foundation of gynecology. McDowell was also a country practitioner, with imagination, who saw his way clear to invade successfully the lower abdomen to remove the ovary.

In contrast, the great discoveries in medicine were scarcely ever accepted at their true value by contemporary members of the profession. The publication of the "Fabrica" of Vesalius started the famous controversy with Sylvius which lasted for more than twenty years, and, in addition, there was the quarrel with Fallopius, Vesalius' immediate successor at Padua, and other quarrels equally vituperative although with men less prominent. Harvey is said to have lost his practice when he published the "de Motu Cordis," and most of the books reprinting his text during the next twenty years were published for the purpose of belittling and refuting his great discovery. Jenner was almost immediately embroiled in a controversy, the echoes of which revert to the present day in the numerous agitations against vaccination and other efforts of the anti-societies to embarrass the progress of medical investigation.

Strive as we may to prove otherwise, the fact remains that neither in the past nor at the present has medicine been as much a science as an art, and yet we are constantly priding ourselves on our science and neglecting the art of treating the emotionally unbalanced invalid who cares much less, as a usual thing, for the science of medicine than for the relief of his symptoms which have been helped in various times and places by methods, many of which I have shown you, which have definitely originated far from the constituted ideal of medical faculties.

140 South Orange Drive.

CLINICAL NOTES AND CASE REPORTS

A NEW, SELF-RETAINING, CIRCULAR, ABDOMINAL RETRACTOR—THE ARNOLD CIRCUMTRACTOR

By Hubert R. Arnold, M. D.
San Francisco

In no field of surgery is proper exposure more difficult to secure and maintain than in the abdomen. A retractor which will retract the abdominal wall in any and every direction and hold it in place, and at the same time hold the viscerae out of the field of operation, is the ideal retractor. The retractor which I have devised and chosen to call the "Arnold circumtractor," will do this admirably.

The circle (1) permits the fastening of a retractor at any angle. A set consists of this circle and ten specially devised retractors. There are four retractors which have solid, curved blades—see blade on retractor handle (2). These are for retraction of the abdominal wall. We call these the "stay" retractors, since they not only hold the abdominal wall in a state of retraction, but also hold the circle rigid so the other retractors may be applied in order to hold the viscerae in any desired position. We call these latter retractors "visceral" retractors.

The circle merely consists of two rings fastened together by means of six cross bars (3), in such

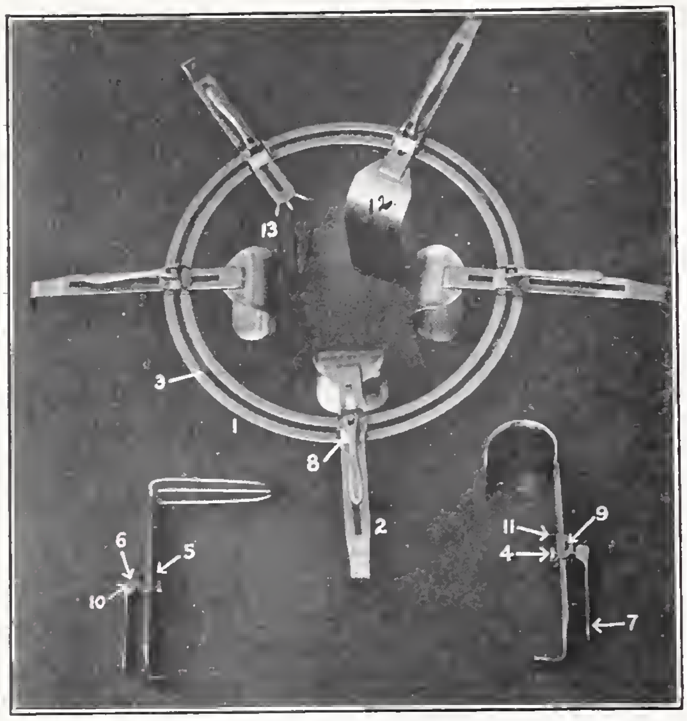

Fig. 1.—The Arnold circumtractor.

a way that there is no interference with the head of the lug (4) which holds the retractor handle to the ring. A study of the figures will clarify this as well as the following points. The ring has an inside diameter of ten inches. The circle is an entirely new principle in self-retaining retractors. There are no corners and hence retraction can be made in any direction.

The second new principle lies in the placing of the clamp, or fastener, on the retractor handle. Usually the end of the retractor handle is made with an eye at the end of a slit in the handle and the fastener is on the stationary part of the retractor. When this is the case the handle of the retractor must be applied to the holder by putting this eye over a thumb screw and the handle slid along the holder. This is usually very awkward and inconvenient. By having the fastener on the retractor handle, as illustrated in the figures, the retractor can be put in any desired place and the handle dropped down on the circle and fastened there without any excess manipulation.

The third and last new principle lies in the fastener itself. The fastener merely consists of a sliding box (5) on the retractor handle. The retractor handle is secured to the ring by means of an eccentric (6) on the end of the handle (7). This eccentric works against a spring (8) which gives "life" to an otherwise inelastic unit. The spring is held in place by means of small side projections which extend through a slot (9) in the side of the sliding box. The eccentric (6) is fastened to a lug (4) whose long, narrow head is held parallel to the handle (7) by a small screw (10). The act of fastening the retractor to the ring consists merely of turning the handle (7) at right angles to the retractor handle in such a way that the eccentric pushes the lug head down between the two circles of the ring. Then the handle is turned again so the long axis of the lug head is parallel to the retractor handle, and hence at right angles to a tangent on the circle at this point. The handle is thrown over so it points toward the curved end of the retractor handle and hence the eccentric comes into play and makes a solid connection. A study of the photographs will illustrate the above description.

On the four "stay" retractors the sliding boxes are made with flanges (11) in order to obviate any side motion of the retractors. This is necessary because the ring is held rigid by the "stay" retractors on the abdominal wall and in turn the "stay" retractors are held rigid by the ring and the box with its flanges. The other six retractors are not made with this device because one may want to turn them at any angle, a condition which will never arise with the "stay" retractors. They must be held in such a way that side motion is impossible. The pull on the "visceral" retractors will always be a straight pull. There will be no side push on them as there is on the "stay" retractors which give rigidity and stability to the instrument as a unit.

Two of the "visceral" retractors are made with flexible Crile material (12) so that the blades can be bent at any desired length or in any fashion. The other four have rigid wire blades (13). But the blades on any of the retractor handles can be fashioned to suit anyone's fancy, either as regards shape, size, or kind of material.

Then, to summarize the new points and advantages of this retractor, first, the circle permits of retraction in any direction. Second, the fastener is attached to the retractor handle, which permits the placing of the retractor in the desired position before fastening it here. Third, the actual maneuver of fastening is done by an eccentric, which is almost instantaneous and at the same time does away with the old-fashioned thumb screw, which is slow, awkward, and a menace to rubber gloves. The whole instrument is light and easy to handle.

450 Sutter Street.

A NEW SELF-RETAINING ABDOMINAL RETRACTOR*

By Stanley H. Mentzer, M. D.
San Francisco

No mechanical means for obtaining exposure in surgery is comparable to manual retraction by trained assistants. When properly used the human hand furnishes the most pliable, gentle, and localized method of retraction available. Unfortunately, however, capable, well-trained assistance is not always at hand. Inadequate assistance can be extremely trying and indeed hazardous. I have found it impossible to obtain skilled assistance on several occasions, especially when called to neighboring areas to operate. Under such circumstances mechanical retraction may prove of inestimable value.

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* From the Department of Surgery, University of California Medical School, San Francisco.

Mechanical means for obtaining exposure in abdominal surgery is of relatively recent origin. The self-retaining retractor of Balfour is universally employed for pelvic surgery, but upper abdominal surgery has not enjoyed the advantages of self-retaining retractors other than spring instruments of the Farr type. Recently Devine and Arnold have devised self-retaining retractors of merit. There are certain disadvantages of each, however, which I have tried to overcome.

During the past few years I have been devising a self-retaining abdominal retractor primarily intended for gall-bladder surgery (Fig. 1). It has proved of such value in this field that the instrument has been remodeled several times to meet other exigencies. The mechanical principles involved consist essentially of a retractor extensible by a ratchet mechanism with five adjustable retracting blades which, in themselves, are extensible. In addition, a hemostat is fixed to the frame of the retractor.

This retractor avoids some of the difficulties encountered in the use of other self-retaining abdominal retractors in that it is small, light, of simple mechanical construction, and has but five blades. The latter are universally applicable. They avoid the necessity for multiple blades, and the handles are short so that the instrument is not cumbersome either during use in the abdomen or in transportation. The extensible blades have proved of great value in that they are adjustable for a thin or adipose abdominal wall, for shallow or deep retraction, and for progressive retraction as the operation proceeds. The blades are adjustable into any position, are interchangeable, and with a simple movement are tightly locked in position.

In gall-bladder surgery the instrument is placed so that the bar with the attached hemostat lies on the liver side of the Kocher or Mayo-Robson incision. The round ligament of the liver is severed and its liver attachment secured in the fixed hemostat on the retractor (Fig 2). In this way the undersurface of the liver is everted and traction upon it is maintained at uniform tension. Narrow retractor blades are placed against the liver on either side of the gall bladder and locked in the clamps. The liver is thereby maintained in a fixed position. Laparotomy tapes are then placed against the stomach, duodenum, and bowel, and the three wide blades of the retractor are placed against these organs respectively. Usually I insert these blades with the retractor partially or completely closed. After the blades are inserted, the retractor is spread apart by means of the ratchet arrangement and fixed in any desired position by the locking lever. The exposure thus obtained is excellent, nor is it disturbed by vomiting or straining. When once placed, there is no need to readjust the instrument, and it is seldom necessary to secure additional retraction from assistants. I find that the apparatus causes less trauma than unskilled hand retractors and gives more adequate exposure than the occasional available assistant.

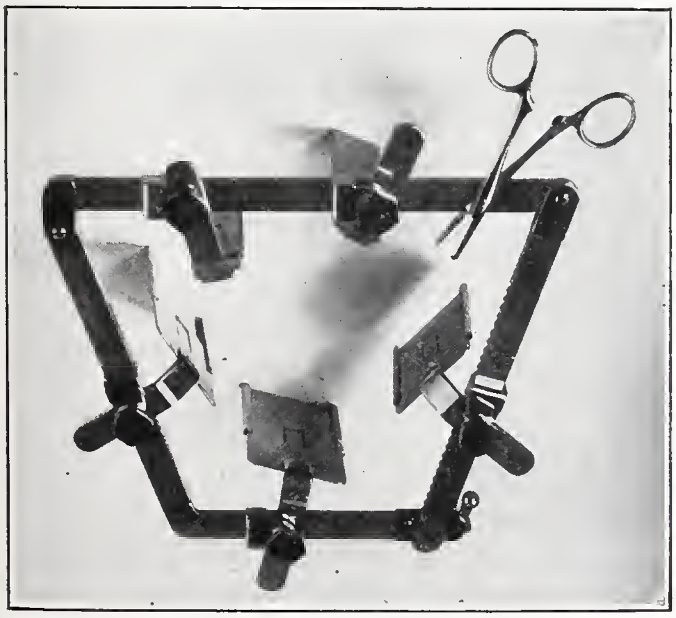

Fig. 1.—Retractor in full extension, showing various depths and adjustable positions of blades.

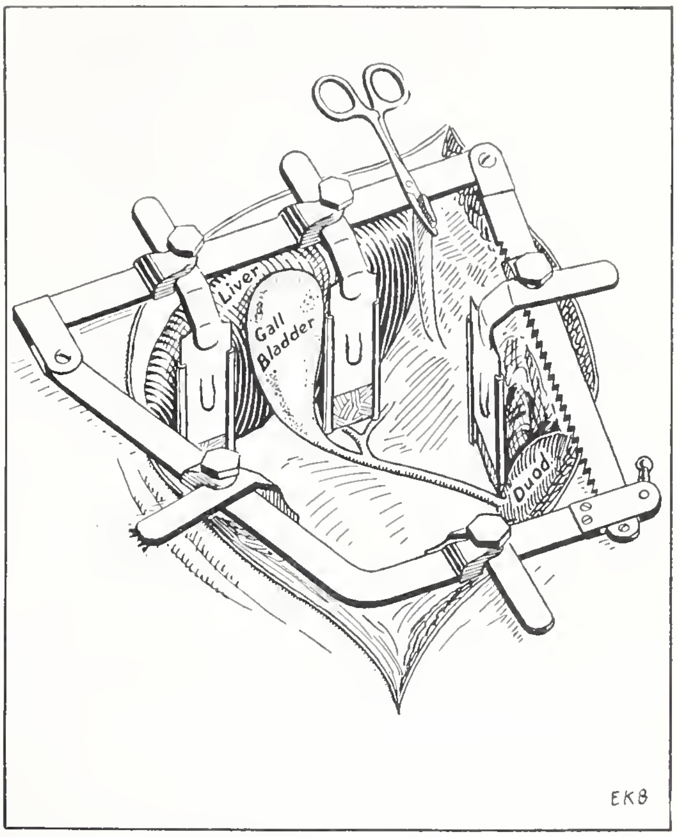

Fig. 2.—Exposure for common duct surgery. Narrow blades are partially extended. Fixed hemostat on frame secures round ligament for eversion of liver.

For operations on the common duct, I have found it of especial value (Fig. 2). Likewise, I have used it for splenectomies, nephrectomies, posterior resections of the rectum, and pelvic surgery, with satisfaction. I am making smaller, curved retractor blades for thoracic surgery. Although I have not tried the instrument in chest work, I believe it has promise.

The retractor has been devised with the assistance of the Weniger Instrument Company of San Francisco.

450 Sutter Street.

BEDSIDE MEDICINE FOR BEDSIDE DOCTORS

An open forum for brief discussions of the workaday problems of the bedside doctor. Suggestions for subjects for discussion invited.

CONVULSIONS IN CHILDREN

Howard W. Fleming, San Francisco.—One of the many difficult problems in medical practice is the treatment of children who have convulsions. Only too frequently convulsions are considered and treated as a disease entity. Their recognition as a symptom only, just as headache, dizziness, and back pain are recognized as symptoms rather than entities, will be a definite advance in our understanding of this condition. A thorough investigation as to etiology should accompany symptomatic treatment, for a premature diagnosis of idiopathic epilepsy, without such careful study, frequently will sacrifice the chance for a real cure. In about 30 per cent of brain tumor patients, convulsions are an early symptom. Necropsy findings in patients segregated in institutions for epileptics reveal an incidence of from two to four per cent of unsuspected brain tumors. No doubt many removable tumors are missed because of faulty examination. It is imperative that investigation be instituted before the convulsive habit is established and the epileptic psyche is fixed.

Idiopathic epilepsy is a term frequently used to describe convulsive rigors which occur without obvious etiology, just as we use the expression "cerebral concussion" in cases of head injury with loss of consciousness. The many theories as to the cause of convulsions and epilepsy are forceful indications of our paucity of knowledge as to their etiology. Surgery of the nervous system has renewed and stimulated our interest in neuropathology and physiology. Suggestive leads as to the etiology and mechanism of convulsions are many, and they implicate nearly all of the various systems of the body. It is impossible even to surmise where the solution of the cause of convulsions will be found. In addition to the central nervous system, experimental findings and clinical experience suggest, as etiological or contributory factors, the endocrine glands, the autonomic system, metabolic processes and, in fact, most of the systems and organs of the body.

Such diverse information gives apparent authority for what seems to be absurd therapy, and the treatment of the convulsive child is a fertile field for charlatans and pseudo-medical practitioners.

Etiologic factors causing or predisposing toward convulsions may be divided roughly into three classes. The first comprises organic changes in the brain and meninges. These are found frequently in patients suffering from convulsions, and their acceptance as etiological factors seems logical. It is interesting to remember, however, that there is no one type of lesion of the central nervous system, nor any one locality of this system uniformly affected in epileptic patients. It is true also that only a fraction of the number of patients who suffer from those lesions of the brain, accepted as predisposing factors, have convulsions. Of necessity we must have some additional predisposing or exciting factors.

The second group is made up of those functional disturbances of the brain cells which predispose to convulsive reaction. This may seem to be a vague classification, but it is necessary in our present state of knowledge. Into it fall those patients who show no evidence, either before or after death, of any abnormality which could be accepted as an etiological factor. Clinical experience and experimental investigation suggest that nerve cell changes, altering the acid-base or electrolyte equilibrium, the proper oxidation, or fluid balance, increase the susceptibility to the convulsive reaction.

A third group includes the extensive disease and abnormal function found outside the central nervous system. Although, in most cases, organic disease of the brain is present, or disturbed function of the nerve cell is suspected, frequently other extensive changes are found also. These may be considered as exciting factors and, superimposed on predisposing elements, may be sufficient to overthrow the balance into the convulsive state. Almost every part of the body has been suspected and consequently has been subjected to much ill-advised treatment. Sufficient evidence exists, however, to warrant comment as to the part played by a few of these factors.

It would seem reasonable that careful examination of a large group of epileptics prior to and after death would establish some fairly uniform dysfunction. Unfortunately this is no more true of the extrinsic parts of the body than it is of the central nervous system itself. The necessity for proper cerebral circulation suggests the likelihood of disease of the cardiovascular system as a contributing factor. Cerebral anemia and impoverished oxygen supply do predispose to convulsions. The acceptance of the idea of vasomotor control of the cerebral vessels throws added suspicion on the autonomic system. Spasms of cerebral vessels, arteriosclerosis or low blood pressure—all may be factors.

Polyphagia and constipation frequently are associated with epilepsy, and have thrown suspicion on the gastro-intestinal tract. The possibility of the absorption of toxins has received attention, and many radical surgical procedures and resections have been advocated as cures. Study of the results by clinical examination and necropsy findings suggests no unusual incidence of gastro-intestinal disease in epileptics.

The glands of internal secretion, particularly the sex glands, have been thought to bear some relationship to convulsions. The fact that the onset of convulsions occurred at puberty or recurred with the menses no doubt suggested the possible relationship. There is no definite evidence, either clinical or experimental, to warrant such a conclusion.

The occurrence of tetany following the removal of the parathyroids points particularly to those glands as having some influence on the convulsive state. It is suggestive that those conditions which favor convulsions in the epileptic, namely, alkalosis and anoxemia, predispose to tetany in the patient or animal deficient in parathyroid secretion. There are many isolated clinical experiences and some experimental data to suggest some relationship between convulsions and the parathyroid glands as well as possibly to implicate the thyroid, pituitary, pancreas, and adrenal. Uniform findings and results are entirely lacking, and the known facts are insufficient to warrant conclusions or suggest radical therapy at the present time.

This discussion has considered chiefly the epileptic child. Fortunately every child with convulsions is not to be considered epileptic. Physicians are loath to make a diagnosis of epilepsy, and parents are unwilling to accept such a diagnosis. Many a child with a so-called unstable nervous system or abnormal susceptibility to convulsions will have seizures resulting from fatigue, fever, trauma or toxins, placing an added strain upon the nervous system. Repeated attacks make the necessity for thorough examination imperative.

A careful history may elicit facts suggesting inherited tendencies, birth trauma, or a family or school environment which play at least a contributory part. Neurological examination frequently reveals signs of central nervous system disease. X-rays of the skull may show evidence of generalized or local pressure, abnormal calcification or unsuspected fracture. Air injection into the ventricles or subarachnoid spaces may give additional information. Any suggestive symptom pointing to other symptoms warrants the most thorough investigation to eliminate remediable conditions.

The care of the new-born with convulsions is especially difficult. These convulsions may be caused by direct brain trauma, secondary hemorrhage, asphyxia, malformation, tumor, or infection. A spinal puncture, done by an experienced person, is an advantageous procedure and gives valuable information as to intracranial pressure, the presence of old or fresh bleeding, and the possibility of infection. Repeated spinal punctures are recommended in cases of bleeding to minimize subsequent difficulties. When the bleeding is localized to either hemisphere and is evidenced by increased pressure or outstanding signs, exploration through the anterior fontanel or a cranioplastic opening is in order. Such therapeutic and prophylactic measures undoubtedly decrease the immediate mortality and minimize the subsequent morbidity.

In conclusion, I wish to emphasize the following suggestions that may help in caring for a condition about which we know little. For adequate prevention as well as for care we need:

1. An increased realization by those doing obstetrics of the friability of the elements of the central nervous system and the permanent results of damage to them.
2. An early diagnosis of cerebral hemorrhage, followed by appropriate therapy.
3. An early complete examination of the convulsive child.
4. A full appreciation of epilepsy or convulsions as symptoms only.

Symptomatic treatment should include regulation of the daily physical and mental activities. Physical, mental or emotional stresses are to be avoided. Improvement of the general health will decrease the incidence of convulsions. Foci of infection should be eliminated and any physical defect which impairs the general health should be repaired.

In many cases a ketogenic diet or one rich in acid-forming foods will decrease the number of convulsions. Depletion by the limitation of fluids may be of value, but it is difficult to control and possibly may be injurious to general health. Dietary regulation and fluid limitation, together with increased medication with the barbitals, may be helpful in preventing convulsions at periods of frequent incidence, or when prodromal symptoms are present.

The problem is a discouraging one in the present state of our knowledge, but not altogether hopeless. Much can be done to prevent and minimize the number of convulsions and occasionally definite etiological factors can be eliminated.

* * *

C. F. Gelston, San Francisco.—A discussion of this subject, it seems to me, has one of its greatest points of interest centered in the ultimate prognosis. Is the immediate convulsion to be fatal; will there be repetitions; does it indicate epilepsy at the moment or in the future? Such are the questions which the physician must be ready to answer insofar as it is humanly possible to do so. The particular diagnosis of epilepsy is a great dread in the mind of a parent. Through a definite understanding of the various convulsive seizures occurring in childhood, the physician is very often able, and with quite reasonable certainty, to set many of these fears at rest. Intensive study during the years is eliminating more and more cases from the "idiopathic" group.

The exact etiology of these explosive nervous phenomena is still not thoroughly understood. Brain anemia in toxic, epileptiform and other so-called "essential" seizures has been considered the basic factor. The convulsions in infants suffering from severe pertussis are unquestionably due to prolonged brain anemia. There must further be direct mechanical irritation at times as seen in hemorrhage, post-traumatic scarring, exudative infectious processes, and actual tissue increase, as in the miliary tubercles of tuberculous meningitis. The imperfect myelinization due to premature birth undoubtedly plays a rôle in the nervous manifestations presented by these infants, which include convulsions, often frequently repeated during childhood.

Convulsions in Infants.—Our first consideration in grouping the convulsions of childhood is that of the new-born. Congenital brain defects, including hydrocephalus, usually cause early generalized convulsions and the outlook is extremely grave. Should recovery occur, there is profound mental retardation and subsequent spastic palsies, as a rule. For the future happiness of the family and the patient, an early demise is the kindest of solutions.

At times a much broadened or thickened thymus in the new-born will cause a seizure, through brain anemia, and this particular condition is most apt to be confused with congenital heart disease through the marked similarity in the clinical picture. Roentgen therapy of the former will relieve the symptoms promptly with only a rare chance of recurrence. In congenital heart defect the prognosis is that of the disease itself.

Brain hemorrhage is the most common cause of convulsion in the new-born. It most frequently occurs in prolonged, difficult spontaneous deliveries, in very rapid deliveries, especially if the child is somewhat premature, and in complicated cases requiring, perhaps, repeated forceps application or the use of version and extraction. There is, of course, a group wherein no mechanical reason can be assigned, and these may, and often do, show evidence of hemorrhagic disease of the new-born. In early massive hemorrhage over the cortex, convulsions may supervene almost immediately, but they are usually delayed for several days if there has been tentorial damage instead. Repeated lumbar puncture will often relieve the pressure and also confirms the diagnosis through the finding of a hemorrhagic fluid or one showing the yellowish discoloration of hemolyzed red corpuscles. It is customary to also inject whole blood intramuscularly in case bleeding has not ceased or that hemorrhagic disease of the new-born is present. One is very chary as to prognosis in brain hemorrhage, even with the cessation of convulsions, due to the frequent later development of mental defect, spastic palsies, or both.

On occasion one encounters cases of profound jaundice in the new-born which closely resemble those of brain hemorrhage. It is very possible, in fact, that the convulsive attacks are due to minute hemorrhages widely scattered throughout the cortex. This group also offers a very gloomy outlook as to ultimate perfect function.

Another disorder affecting the nervous system in the manner under discussion is that of sepsis. This usually finds its portal of entry at the umbilical stump, causing a peritonitis, septicemia, pneumonia, and death.

A second group offering a distinctly more cheerful aspect may be classified under the spasmophilic diathesis. There one is apt to find a lowered calcium content of the blood and is, perhaps, most typically represented by a state of tetany. There are, however, many degrees of spasmophilia from the mildest to the most severe. Response is prompt to the administration of calcium and at times to parathyroid extract. It is my opinion that the convulsion which initiates so many of the acute infections in childhood is due to a spasmophilic tendency combined with an unstable nervous system (called frequently the neuropathic diathesis.) These attacks are usually single, and have no relation whatsoever to epilepsy. It is probable that convulsions ascribed to errors in diet, eruption of teeth, internal parasites, etc., have a similar etiology. Through this excessive irritability of the nervous system, combined with a low blood calcium, explosions such as these can occur from comparatively slight insults. As the child grows older, the tendency is for such manifestations to become less and less frequent, finally disappearing entirely at from six to ten years.

For many years it has been customary to designate as meningismus or toxic meningitis those cases presenting evidence of cerebrospinal irritation, but with a normal or an approximately normal spinal fluid. In infants, convulsions from this cause are most commonly seen in pyelitis and otitis media, apparently being greatly influenced by the extreme degrees of temperature elevation which are observed. Meningismus is frequent in pneumonia during childhood, but offers a much graver prognosis as to life if accompanied by convulsion than the above mentioned infections.

Convulsions in Older Children.—In older children convulsive seizures in the course of an otitis media usually indicate, not meningismus, but a definite complication in the shape of a septicemia, mastoiditis, brain abscess, sinus thrombosis, or meningitis.

Acute infection of the central nervous system as typified by epidemic cerebrospinal meningitis, the various pyogenic meningitides, *e. g.*, streptococcus, pneumococcus, influenza bacillus, epidemic encephalitis and poliomyelitis may all present convulsion at any time in the course of the disease. In tuberculous meningitis it is a constant finding near exitus. Naturally, in recovered cases of meningitis which present hydrocephalus as a sequela, convulsions, often repeated, are frequent.

Jacksonian epilepsy is usually the result of irritation to the motor cortex, either occurring as the result of a birth hemorrhage with subsequent cystic or sclerotic change, following skull fracture, or as a result of meningitic or encephalitic scarring. While the convulsions of congenital lues, involving the central nervous system, are usually generalized, they are, on occasion, of the Jacksonian type. There is some hope offered by surgery in the above cases other than lues, but as a rule results are disappointing.

Idiopathic epilepsy is divided into major and minor attacks and these may exist singly or combined. It is frequent to have the first attacks of the petit mal variety, true convulsive seizures appearing later. This is particularly so in early childhood. Later, near adolescence, nocturnal attacks may be the first observed. Should either petit mal or grand mal have its onset during the early school age and if attacks, through treatment, can be kept at a minimum, it is my opinion that there is a definite chance of recovery following adolescence. If the first seizures appear at the latter period, however, the prognosis is not nearly so favorable. In any case, there is the greatest variation in the severity of the disease. This variation extends from a rare minor or major attack to almost constant convulsion or status epilepticus. In the mild forms there is little or no mental impairment, whereas in the more severe cases retardation is constant and progressive.

A last type of convulsion in childhood must be mentioned as an occasional cause, namely, hysteria. In an emotionally unbalanced child placed in a faulty environment, or at least in one to which he reacts badly, it is not uncommon to have a typical hysterical convulsion supervene on the slightest of pretexts.

* * *

Clifford Sweet, Oakland.—Doctors Fleming and Gelston have written so completely on the etiological causes of convulsions in children that I need add nothing. I will attempt to emphasize some of the conditions with which the physician is faced when he is called upon to treat the child with acute convulsions.

I purposely omit from my discussion those convulsions which have been repeated at intervals over a long period of time and are evidently chronic. By means of this omission I exclude, except in rare instances, those convulsive seizures which are caused by organic lesions of the central nervous system such as birth injury, brain tumors, congenital developmental defect, and long-standing epilepsy.

Clinically a sign of the greatest dependability is the presence or absence of fever accompanying the present or previous attacks. If the patient's history contains accounts of previous seizures the first question to ask is, "Did the convulsion appear during a period of fever or was it followed by a sharp rise in temperature?" If the answer to the question is "yes," and if the temperature has been taken, one can, in general, reasonably presume that he is not dealing with the group caused by organic defect or change in the central nervous system. This leaves for consideration by far the most usual type of convulsion seizure, namely, that which is a part of an acute infectious invasion. If the infection is within the meninges the cause of the convulsion is evident, but if located elsewhere the relation is not so clear.

A complete physical examination should be made with especial attention to any change in the reflexes. If there is reason to think that meningitis may be present, lumbar puncture should be done at once.

Since a high temperature so often accompanies the convulsion, it seems probable that the equilibrium of the nervous system may be upset by excessive fever. Therefore the application of treatment to reduce fever is logical. Prolonged immersion (thirty to sixty minutes by the clock) in a tub of tepid water or wrapping the entire body in an unwrung wet sheet with an ice cap to the head are the most effective means to be used for this purpose.

Many convulsions can be prevented if the mother or nurse is taught to use these hydrotherapeutic measures whenever the fever reaches 103.5 degrees Fahrenheit in the course of an acute illness.

Fever is, of course, the response of the body to toxin, so the question arises whether the convulsion is the direct result of the fever or the toxin. In either event the reduction of the concentration of toxin within the body is desirable. This requires the introduction of fluids in large quantities into the tissues. In the treatment of any acute febrile disease this cannot be overemphasized. Fluids by mouth, by rectum, subcutaneously and intravenously, should reach a high total with the purpose of diluting toxin and assisting in eliminating it from the body. Hypertonic glucose solution (10 per cent) intravenously, or (5 per cent) intra-abdominally if a vein cannot be entered, is of very great value. As is well known, hypertonic glucose solution intravenously at once reduces intracranial pressure while at the same time furnishing fluid and readily available food. Clinically the introduction of a high concentration of glucose seems to reduce toxemia, perhaps by draining toxin-bearing fluids from the tissues into the blood stream from which they are eliminated. From one to five hundred cubic centimeters, depending on the size of the child, can be safely introduced into a vein if not done too rapidly, while from two to five hundred cubic centimeters of physiological salt solution can be given subcutaneously as frequently as absorption takes place.

Sedatives are very useful in both treatment and prevention. For immediate relief chloroform inhalation is unequaled. Ethyl chlorid inhalation (used with more caution than chloroform) is also useful. Chloral hydrate by rectum in starch water is dependable if given in sufficiently large doses. One should remember that the rectal dose of this or other drugs must be double that of the dose by mouth. To be effective five grains must be given to infants one to two years of age. Ten to fifteen grains of sodium bromid may be added for an additional sedative effect.

While much stress has been laid on fever the convulsion sometimes precedes the fever in the onset of acute disease. Also a child with tuberculous meningitis may have a convulsion during an afebrile period. I once saw a child with epidemic cerebrospinal meningitis who had a convulsion but no fever at the time of examination.

Much unnecessary unhappiness is caused by suggesting epilepsy to the parents of a child who has a convulsion which does not have any evident chronic basis. Care must be exercised not to make this suggestion inadvertently when inquiring if other members of the family have been subject to convulsions in childhood.

I have often speculated over the problem of one child having convulsions as a symptom of acute disease, while many others having the same disease in perhaps more severe form are free from them. By analogy I compare them to seasickness. On a sea of given roughness some are ill, while others escape.

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Leaflet Regarding Rules of Publication.—California and Western Medicine has prepared a leaflet explaining its rules regarding publication. This leaflet gives suggestions on the preparation of manuscripts and of illustrations. It is suggested that contributors to this journal write to its office requesting a copy of this leaflet.

EDITORIALS*

GREETINGS

The New Year—Its Outlook.—"The Year 1931." It is here. CALIFORNIA AND WESTERN MEDICINE again extends the Greetings of the Season to its readers of the California, Nevada and Utah Medical Associations.

That in 1931 there will be as much work ahead of the members of these three state medical associations as in the years gone by, there can be little doubt; because incidence of disease and injury will not vary greatly from that in recent years, and the number of lay citizens who will seek the professional services of skilled physicians and surgeons will likewise be about the same.

Regarding the economic rewards for the medical and surgical services which will be rendered we are not so certain, because when general economic conditions are below the average in the lay and business worlds, the number of patients who permit physicians to serve with lesser or even with no pay, usually increases. But at that, with good health, each of us will be able to have the privilege and joy which goes with service for human fellows.

CALIFORNIA AND WESTERN MEDICINE wishes for every one of its readers the best of health for the coming year, because good health is a splendid foundation for efficient service, and efficient service in turn should bring its proper and deserved rewards.

* * *

A Public Office Is a Public Trust.—To the newly elected officers of many of the county units of the state associations of California, Nevada and Utah, CALIFORNIA AND WESTERN MEDICINE extends special wishes for successful years in the organized medicine efforts of their respective societies. The old saw—"A Public Office is a Public Trust"—applies equally to official positions in medical societies. In these days of rapid changes and transitions, officers of medical societies should realize that they have very special responsibilities to their profession and to their fellows. Each officer of a medical society should remember that for the time being he is one of the leaders and spokesmen of the medical organization which has honored him by election or appointment to office. Each such officer should resolve to not only measure up to a proper standard in the performance of his own particular duties, but should resolve also to maintain cordial contacts with all fellow officers and members, so that the society which has honored him may be the better and stronger because of his official service.

* * *

A Kindly Outlook.—Let us each also resolve that in the coming year we will live up to the ethical code of our guild in so far as may be humanly possible, and that in our work we will aim to not only serve efficiently as judged by the best standards of modern-day scientific medicine, but that we will strive also to maintain a judicial, kindly and generous poise in passing on the seeming delinquencies of some of our fellows. The admonitions contained in the Oath of Hippocrates may be taken to heart by all of us. If in good part we do these things, then the year 1931, even though it go not down into history as one of the "prosperous economic years" of our country, nevertheless can be made to become to each of us as individuals, and in our group relationships to our professional fellows, a happy and prosperous year. Therefore, again from CALIFORNIA AND WESTERN MEDICINE, on behalf of each of its readers, to each of its other readers—

A Happy and Prosperous New Year!

CALIFORNIA MEDICAL ASSOCIATION CLINICAL AND RESEARCH PRIZES

Reasons for Founding the Prizes.—Several years ago the Council of the California Medical Association, in an endeavor to provide a special incentive for younger members of the profession to participate in the scientific meetings of the annual sessions of the California Medical Association, passed a resolution whereby two prizes, one for a paper on a research study, the other for a paper on a clinical subject, would be annually awarded.

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*Editorials on subjects of scientific and clinical interest, contributed by members of the California Medical Association, are printed in the Medicine Today column, which follows.

* * *

All Annual Session Papers Eligible.—Because of the somewhat limited number of papers which were presented, it was decided more recently to make any paper which was read at an annual session eligible for consideration, when such paper was previously registered for consideration. The rules of procedure in prize awards may be had on application to the Association secretary. These rules have also been printed in California and Western Medicine and in the 1930 *Directory* of the California Medical Association.

* * *

Shall the Prizes Be Continued?—Each prize is for the sum of one hundred and fifty dollars. The prizes of the 1930 annual session at Del Monte were awarded to Drs. Bogen and Hara and were printed in the official journal (July California and Western Medicine, page 473, and September California and Western Medicine, page 628). California and Western Medicine again calls attention to these prizes and urges members who can do so to coöperate, either by submitting papers of their own or by inducing other members to submit reports and papers. The Council of the California Medical Association is anxious to maintain the prizes, but will feel warranted in so doing only if a sufficient number of members show an interest therein. In our Association of some five thousand members it should be possible to secure the sufficient coöperation necessary to continue these prizes. The blame for non-coöperation would naturally rest somewhat more heavily upon the younger members of the Association.

"CALIFORNIA MEDICAL ASSOCIATION DIRECTORY"—THE 1931 EDITION

The Rosters in the California Medical Association Directory.—Some time in January a copy of the 1931 edition of the *Directory of the California Medical Association* will be mailed to each member. Some comments on this important publication may be in order.

Our *Directory* is intended primarily to give a roster of the entire California Medical Association membership. This is done in two ways, namely, through an alphabetical index of the entire state society membership, and through an index of members in component county societies, also arranged alphabetically.

Many members who use these rosters do so as a matter of such ordinary course that they fail to appreciate the convenience and saving of time and effort which are made possible by these printed lists of members which our Association annually places on our desks. If this usefulness did not so constantly exist, it is a question whether the state association would wish to expend so much of its funds for this particular publication.

* * *

A Larger General Information Section.—In addition to the rosters, this year's *Directory* will present more than the usual amount of printed matter in its foreword or general information section. It is hoped that the presentation of this additional information will so commend itself to California Medical Association members that the officers of the Association will feel justified in its continuance.

There is naturally a complete list of officers, not only of the California Medical Association, but of associated activities such as the state boards of health and medical examiners. Information concerning the annual clinical and research prizes, and of publication rules and suggestions for papers intended for California and Western Medicine are also given. A list of county, state and federal hospitals in California with bed capacities of each is also printed.

From one of the publications of the Medical Society of the State of New York the principles of professional conduct and other matter is reprinted. An interesting article from the legal counsel of the Los Angeles Orthopedic Hospital, on "Refreshment of Memory" in medico-legal cases is also presented. There are also tables giving list of state society presidents, of total state society membership in recent years, of 1930 county society membership. Licentiate totals for different counties are also printed.

* * *

Some History of Fifty Years Ago.—The Council granted the request of the state association committee on history, that some space be given to a presentation of historical material. It is a sad but none the less necessary confession that in spite of a state association career that started as long ago as March 12, 1856, that the historical information in the files of the Association is very sparse. However, that condition only makes more necessary the early and active beginning in the collection of California Medical Association memorabilia.

In the 1931 directory will be printed a considerable number of excerpts of one of the first directories of our association, namely, that of some fifty years ago, of the year 1878. Since only a few members have access to the directory of that year, it seemed fitting that its contents be so excerpted that somewhat of the problems and the outlook of organized medicine of that period might be the better appreciated by our present-day members. Attention is called to this portion of the *Directory* in the hope that sufficient interest may be created therein so that members of the California Medical Association will give themselves the pleasure of reading these historical excerpts from the days of a half century ago. A photo cut of the old Toland Hall of the University of California Medical Department is reproduced. Likewise two small cuts which were used to better portray the text of "tonics" from the advertising pages. Those two cuts show how advertising illustrations, with other things, have progressed in the last five decades.

* * *

Every Component Society Should Compile a Brief County Society History in 1931.—We cannot leave this topic of medical history without urging the officers of every county medical society to appoint a special committee on history, the function of which would be to compile during the coming year at least a skeleton outline of the organization and subsequent career of their respective organization. If, for instance, a complete list of county society officers, year by year, were compiled, that would make an excellent beginning, because with such information at hand the state committee on history would be in position to turn to still living officers of former days, and secure narrative and other information concerning the past. Such a sketchy historical outline for each county medical society would make an interesting addition to the California Medical Association directory of the year 1932. In such a local committee on history, in addition to one or two older members, it might be desirable to appoint one or more younger members who could go through the minute books and other records and so make compilations of the list of officers and other data.

* * *

Pride of Organization and of Family Go Together.—Pride of organization is as commendable as pride of family. The material for an authoritative history of the California Medical Association should have been gathered some time ago. However, it is still not too late, if each component county society will at once coöperate as above indicated. Such an expression of internal development, if successfully carried out from Del Norte County in the north, to Imperial and San Diego in the south, would make the year 1931 one to be remembered in the historical annals of the California Medical Association. It is a worthy cause and work, and if we leave it undone it will be a reflection on us for which our successors will probably reproach us.

FEDERAL LEGISLATION IN AID OF MATERNAL AND INFANT WELFARE—THE SO-CALLED SHEPARD-TOWNER ACTS

The Notable Record of the United States Public Health Service.—The United States Public Health Service has long been in existence and is widely known as one of the efficient arms of our national government. It has a record of able service which other governmental services would find difficult to match. Its most creditable record, decade after decade, in all phases of public health work from the beginning has been founded in very large part on a departmental personnel of high standard. From its inception the medical men who have guided the destinies of this important department of our national government have given of themselves most generously, and through their special professional training have been in position to render exceptional service to the public.

With such a consistent record of successful achievement in the past, would it not be fair and logical to assume that this well-organized department, which, as its name and its present organization imply, has a natural custodianship and supervision over national public health interests, would be able to meet future responsibilities in fullest measure?

* * *

The So-called Shepard-Towner Legislation for Maternal and Infant Welfare.—The above, by way of introduction to some comments on certain public health legislation known as the Shepard-Towner Act and its successors, which bills might be outlined in calendar sequence somewhat as follows:

Phase 1. The Original Bill (so-called Shepard-Towner Act) approved November 23, 1921. (This Act by its terms was to become inoperative June 30, 1927.)

Phase 2. Extension Period for Above Act. (This was passed by the Sixty-ninth Congress as a result of an intense propaganda and fight, and was for an extension period of only two years, to end June 30, 1929.)

Phase 3. This phase is still pending, and is represented by several proposed Acts now before Congress, and which merit the serious attention of the medical profession, as follows:

(*a*) The Jones-Cooper bills (Senate No. 255; House R. No. 1195—this measure has already had Senate hearings).

(*b*) The Cooper-Robson bills (Senate No. 4738; House R. No. 12995).

If you are interested, and you and your society should be, you should write to one of your senators for copies of the above senate bills, and to one of your representatives for copies of the above house bills. A list of the United States Senators and Representatives from the states of California, Nevada and Utah is printed in the legislation column of this number of California and Western Medicine (see page 70).

* * *

Some of the Purposes of the Original Shepard-Towner Act.—The original Shepard-Towner act (elapsed November, 1927), and its successor (elapsed in 1929) was intended to promote the development of public health work referred to as "maternal and infant welfare" by offering federal funds for such work to states of the Union which would meet in equal amounts the federal allocation of funds for such work, provided the work was carried on in accordance with rules laid down by the federal authorities. The work was carried on through the "Children's Bureau," which is a federal government activity or bureau having a place in the United States Department of Labor.

This "Children's Bureau," which deals with these important maternal and infant welfare problems (which in their public health aspects have been largely studied or solved by physicians) is a bureau whose executives are nearly all lay citizens. With the earnestness of purpose of these lay executives issue is not taken. But with the desirability of permanently placing so important a public health work and effort as the reduction of maternal and infant morbidity and mortality under such lay domination, instead of under supervision and guidance by the trained medical personnel of the United States Public Health Service, issue may very well be taken.

* * *

The United States Children's Bureau Partakes of a Bureaucracy.—Leaving out of discussion, for the moment, the assumption of this work by the lay employees and executives of the United States Children's Bureau who found places for themselves when the original Shepard-Towner Act became a law, and who in the years that have since intervened seem to have used a considerable portion of their energy in building up their special bureaucracy in an endeavor to make it a permanent organization (even though Congress decreed that it be "after June 30, 1929, of no force and effect"), the question may well be asked by what standards these lay executives hope to prove to themselves and to the country that this work in the long run could be better done by them than by the professional personnel of the United States Public Health Service.

* * *

The Invasion of State Rights by these Acts.—An additional argument against the Shepard-Towner and its successor acts rests upon the fact that the appropriations for this lay bureau are so made that they may be said to be a paternalistic invasion of state rights, in that states not submitting to the provisions laid down by the Children's Bureau are in good part deprived of coöperative monetary aid. In other words, noncompliance to the fiats of the lay Children's Bureau of the United States Department of Labor brought punishment to such states through almost complete withdrawal of federal aid in maternal and infant welfare.

* * *

The Revived Act in a December 8, 1930, Hearing.—It may be of interest to note that the Jones-Cooper bill in its Senate form (S. 255) came up for consideration on December 8, on the unfinished business docket of the Senate. The new bill was sponsored and defended by Senators Jones of Washington and Shepard of Texas, and was criticized and objected to by Senators Phipps of Colorado and Tydings of Maryland. These Jones-Cooper bills (S. 255, H. R. 1195) are the particular present bills which in the Senate and House of Representatives have the best opportunity for passage. Members of the California, Nevada and Utah Medical Associations who wish further information thereon are referred to the minutes of the House of Delegates of the American Medical Association as passed at the Detroit, June 1930, annual session, and as published in the *Journal American Medical Association* and in the *American Medical Association Bulletin* (the November 1930 number of the *American Medical Association Bulletin* gives an excellent survey of the recent situation).

* * *

How California, Nevada and Utah Might Coöperate.—Component county societies, and members of the California, Nevada and Utah Medical Associations who believe such maternal and infant welfare public health work should be placed under the United States Public Health Service instead of under a self-perpetuating lay Children's Bureau of the United States Department of Labor, should write to their respective United States Senators and Representatives, giving the senate and house numbers of the Jones-Cooper bills. (For list of congressmen see the Miscellany column of this issue, page 70.)

Well-trained physicians presumably have expert knowledge of public health needs and work. We can therefore very properly call attention to the inadvisability of reviving the maternal and infant welfare work along such lines and under such control as is contemplated in the Jones-Cooper bills (S. 255, H. R. 1195). We can also very properly point out that appropriations for such maternal and infant welfare work can be most judiciously and efficiently expended through the medical officers of the United States Public Health Service, which latter allocation of funds and superintendence is also free from the dangers of a bureaucracy and of over-paternalistic federal intervention into the rights, needs and responsibilities of the individual commonwealths of these great United States.

There is a place for everything and everything should be in its proper place. The public health problems incident to maternal and infant welfare have a very logical and proper place in the United States Public Health Service. Let us, each of us, do our part in trying to place them there. Write your senators and representatives to that effect.

Tannic Acid in Burns and Scalds.—This is being reported as an enormous improvement over the older methods of treatment by picric acid and salines. Herzfeld (*Practitioner*, February 1929), claims that in his experience the percentage mortality has dropped from 38 to 9 per cent and that this alone would justify its use. To be of benefit it must be applied within twelve hours after the accident before toxemia sets in. Its application is painless; it prevents absorption and local sepsis; and it permits healing with minimum scar formation. How it acts is as follows: It produces a local coagulum over the raw surface and thus renders the products of the burns insoluble and incapable of absorption. Healing goes on undisturbed underneath the coagulum and once an effective coagulum is formed no further dressings are necessary. It is applied as 2.5 per cent solution in distilled water and must be freshly prepared. In severe cases the usual treatment for shock and collapse must precede the application of this remedy.—*Bulletin South Indian Medical Union,* July 1930.

MEDICINE TODAY

This department of California and Western Medicine presents editorial comment by contributing members on items of medical progress, science and practice, and on topics from recent medical books or journals. An invitation is extended to every member of the California, Nevada and Utah Medical Associations to submit brief editorial discussions suitable for publication in this department. No presentation should be over five hundred words in length.

Pawlow's Work and Its Clinical Possibilities.—Just before his coming to this country, the writer of these lines had the opportunity, together with a group of other physicians, to visit the physiological laboratories at the Institute of Experimental Medicine in Leningrad, which is directed by Professor Pawlow, well known for his theories and experiments on conditioned reflexes.

The professor's assistants received the visitors very cordially and showed them around the various sections of the laboratories, giving them the most detailed explanations on each and every phase of the work conducted by the Institute.

Then Professor Pawlow appeared and joined the group. With a great deal of enthusiasm he explained to the visitors, in detail, the mechanism of conditioned reflexes, their meaning and practical importance, and in passing, he also mentioned the rôle they play in establishing body immunity and its entire significance from the point of view of reflex activity.

How simply and clearly were the most complicated problems of biology and physiology solved by this distinguished savant!

Immunity, the professor explained, is a type of response on the part of the organism to certain stimuli, which reach the body cells after their introduction into the blood stream.

This reaction or response is no more than a reflex.

In this connection quite interesting experiments were performed on guinea pigs. They were subjected to a type of protective vaccination for a period of several days and each vaccination was accompanied by some definite external stimulus like scratching of the skin. The vaccination and the scratching were discontinued after the immunity had been established.

It occurred then, that after a period of time in which the immunity was lost, the mere scratching of the skin re-established immunity just as well as the vaccination alone had previously done.

Guinea pigs that were previously subjected to a protective vaccination with simultaneous external stimulation survived a dose of cholera vibrio which was definitely fatal for those guinea pigs whose vaccinations were not accompanied by scratching. Thus the external stimulation of the skin brought about a definite reaction in the guinea pigs; in other words immunity was established by conditioned reflex.

Certain other experiments indicate that external stimulations may also produce some ill effects.

After dogs are injected with morphin several times so as to produce symptoms of slight poisoning, the injection of water alone, or the mere appearance of the experimentator in his usual garment, will produce the same train of symptoms.

The idea of conditioned reflexes, and its methods of application in explaining phenomena of behavior and function, was first presented to the scientific world by Pawlow in 1901.

Thanks to this method, it became possible, for the first time, to explain the physiology of the cortex of the human cerebrum on a purely objective and strictly scientific basis.

It has been proved that the cortex of the cerebral hemispheres, as well as the other parts of the central nervous system, functions on the principle of reflexes with this difference, that the reflex activities of the lower levels occur as inborn and fixed reactions during the whole life of the animal, while the reflex activity of the cortex is labile and with changes of the environment, formerly established reflexes may be profoundly modified, and even cease to function.

The principle of conditioned reflex formation is based on the establishment of a series of synaptic connections between two points of the cortex which are in a state of excitation. When a dog is fed at the ringing of a bell there is established a connection between the auditory and gustatory centers of the brain. After several simultaneous presentations of the food and auditory stimulus, the auditory stimulus alone will elicit the salivary reaction; that it is a conditioned food reflex has been established. If, however, the ringing of the bell will not be reinforced by food, the established conditioned reflex will be disrupted. If a bell which has a different pitch and is unaccompanied by a food stimulus is presented to the dog in alternate order with the first bell which is accompanied by food stimulus, then a differentiation between the two kinds of bells will be established in the animal's cortex. This differentiation is brought about by the inhibitory activity of the cortex.

Thus the activity of the brain consists of processes of excitation and inhibition, their movement along the fibres of the cortex, their mutual influences and the analyses and syntheses of the ingoing and outgoing stimuli.

Professor Pawlow is now working on the problems of applying his principle of conditioned reflex to the study of psychiatry.

Some mental disorders he considers to be due to a process of cortical inhibition the physiology and pathology of which he discusses in detail.

To a more extensive process of cortical inhibition belongs, according to Professor Pawlow, the phenomenon of sleep.

By his experiments on animals he succeeded in showing that the various phases of the hypnotic state occurring between waking and sleep represent various degrees of intensity of the spread of cortical inhibition.

Schizophrenia in its different phases and variations, for instance, he considers to be a type of chronic hypnosis, the presence of which may be explained by the individuals' inherited, or acquired weak nervous systems.

Under certain conditions, such as much excitement or excessive stimulation, this weak nervous system soon reaches the point of exhaustion which, according to Professor Pawlow, is the most important physiological factor in causing the subsequent invasion and spread of the cortical inhibitory processes. The latter, Pawlow believes to have a protective value, for it is by this inhibition that the cortical cells have time to recover from the injuries caused by excessive function.

Thus he considers chronic hypnosis to be both pathologic and physiologic process. The process s pathologic in the sense that it interferes with he normal mental activity of the individual, and hysiologic in the sense that it preserves the ortical cells from impending injury due to exces ive function.

An understanding of Professor Pawlow's re earches would prove of inestimable value to the uberculosis specialist, for we know of what great mportance to the tuberculous patient are his humoral and cellular powers of immunities, the fluctuations of which depend both on external and internal factors. Not less significant is the patient's symptom complex, which accompanies and follows the first defeat in his fight with the infection. The symptom complex includes such complaints as depression, poor appetite, nervous indigestion, headaches, insomnia, excessive perspiration, etc., all of which are instrumental in depleting the body defenses. While these symptoms surely originate from the general body toxemia, yet they are much more intensified by the psychoneurotic and psychasthenic condition in which such patients invariably find themselves. Thus, the physician is confronted not only with the problem of treating a specific tuberculous lesion and increasing the patient's immunity, but also with the problem of alleviating his functional nervous disorders.

Pawlow has succeeded in demonstrating by his experiments that the condition of immunity, appetite, sleep, digestion and even assimilation, may be modified by the establishment of properly selected conditioned reflexes. He thus offers a new and simple method of approach to the solution of these vital problems on medicine.

Despite his age, which is more than four score, this world-known scientist is still carrying on his work and indefatigably laying out new paths in the world of medicine.

Charles Rubenstein, Duarte.

Nonoperative Management of Ureteral Calculi.—Since Bransford-Lewis, in 1904, first introduced his instrument for the manipulation of ureteral stones, many have persistently endeavored to remove as many ureteral stones as possible by cystoscopic means. Such endeavor was accelerated markedly in 1921. Since then cases of successful nonoperative removal of ureteral stones have been reported in ever-increasing numbers, the largely dependable method being the slow dilation of the ureter by the introduction of increasing larger catheters.

The bloodless or conservative treatment is successful in a large number of cases of ureteral stones. According to Covisa and Lafferty, 93 to 96½ per cent of all ureteral stones pass spontaneously either with or without the aid of the cystoscope. If all authors are not able to adduce such favorable figures, yet a conservative treatment is indicated when the size and shape of the stone offer hope of a spontaneous evacuation and when the condition of the corresponding kidney or the general condition of the patient does not demand heroic measures.

Nonoperative measures for removal of ureteral stones are being more and more employed. For the rapid improvement in the instruments available to urologists, has made it possible to obtain in a great number of cases gratifying results by dilating and otherwise manipulating the ureter through the bladder, rather than by resorting to laparotomy which in the past has so frequently proven both dangerous and unsatisfactory, due to peculiarities of the structure of the ureter and its somewhat inaccessible location.

Ureteral dilation is the most common and successful method for extraction of calculi, since stricture of the ureter is the chief factor in retention of the calculus. Sometimes a stone lodged in the upper ureter may be pushed upward into the kidney pelvis by means of an olive-tip bougie, and the strictured section of the ureter which has prevented passage downward can then be dilated sufficiently to permit free descent. A stone pushed upward into the renal pelvis has a tendency to drop again to the site of original obstruction. After the lower part of the ureter (including the strictured area) is sufficiently dilated at several successive sittings, the stone finally enters the bladder, from which it can be removed by forceps or by crushing and washing out the fragments. Sometimes the repeated dilation of the ureter permits the calculus to descend to a point not far from the vesical opening. The patient will readily submit to the inconvenience of repeated cystoscopies, as long as he realizes that a laparotomy and protracted stay in the hospital can be thus avoided. By injections of a few cubic centimeters of 2 per cent solution of novocain, at the point where the stone becomes impacted, the surrounding tissue is relaxed in four to five minutes. This relaxation may permit passing a catheter beyond the stone, through which five to ten cubic centimeters of sterile oil can be injected. The patient is put to bed and large quantities of water are given to increase diuresis.

In some cases mobilization of the stone can be accomplished by the following method: A long whalebone ureteral filiform with a very small, olivary tip, is threaded through a No. 7 ureteral catheter which has been cut off four inches shorter than the filiform, and this combination is passed through the cystoscope. The filiform is first inserted very gently and carefully into the ureter and passed well above the stone. The catheter is then advanced along the filiform and, with filiform as a guide, is pushed strongly up the ureter and past the stone. The filiform is then withdrawn, leaving the catheter in place to drain the hydroureter and through which to inject olive oil as an aid in the expulsion of the stone. The above mentioned procedure, unless the first attempt is crowned with success, can be repeated at two to three days' intervals, the size of the catheter being gradually increased. When size No. 14-French has been used without success the condition should be regarded as surgical, and no further manipulation should be undertaken.

Early removal of ureteral stones is important since long continued obstruction may eventually lead to a more or less rapid and always fatal destruction of the corresponding kidney. We should bear in mind that even a small stone of irregular shape may finally adhere to the ureteral wall and in time cause anatomo-pathologic alterations of the wall and so lead to impaction with all its dangerous consequences.

Efforts to deliver stones by various cystoscopic manipulations should not be carried to a point where there is a great danger of such complication as suppurative pyelonephritis (with multiple cortical abscesses) occurring. Cases in which there is marked infection should be treated by ureterolithotomy rather than by manipulation, as well as cases of stones of more than one and one-half or two centimeters in diameter, that are known to have been present for a considerable period of time.

According to Jeanbreau, 51 per cent of the stones which do not pass become lodged in the juxta vesical portion of the ureter, wherefrom they can be extracted without an open operation, just by widening the vesical outlet of the ureter, which is best attained by splitting the ureteral orifice. For this purpose the knife, scissors or cautery-electrode may be used. The advent of the operating cystoscope and its accessory instruments has made ureteral meatotomy a fairly common and easy procedure, almost exclusively an intravesical cystoscopic manipulation, entirely safe and void of untoward complications especially when electrocoagulation is employed. This procedure hastens the removal of a stone too large to pass into the bladder and held in the ureter just inside the orifice or slightly above it.

Reviewing the literature on the subject in question it is safe to state that most of the ureteral stones may be safely treated by dilation and other nonoperative manipulations of the ureter, which relieve strictures and other obstructive causes.

As recurrences of calculi are fairly frequent, assisting the passage of the stone by manipulation is a safer and more rational procedure than open operation with the risk of a postoperative ureteral stricture.

Dilation and manipulation is in line with the trend towards conservation of renal function.

S. I. Movitt, Los Angeles.

Isometric Contraction of Skeletal Muscle

PART II*

MECHANICS OF CONTRACTION AND RELAXATION

1. *Mechanical Events.*

In Fulton's records of the mechanical response an abrupt discontinuity or angle is characteristic. The more recent studies of Cooper and Eccles,[16] using the frictionless myograph of Eccles and Sherrington,[17] do not show this phenomenon. The curve of contraction is smooth throughout, its essential features being:

1. An increase of tension beginning one sigma (1/1000 second) after the initiation of the electrical response (with no intervening "period of rigidity").

2. A short period of upward concavity, followed by an upward convexity.

3. Relaxation from the curved summit gradually passes into a curve which is concave upward. There is no sign of plateau or angle.

Cooper and Eccles suggest that the summit of the curve be used as a point of reference, taking the place of Fulton's "angle."

2. *Thermal Events.*

By the use of precision apparatus, A. V. Hill[18] has shown that the heat production consequent upon muscle function takes place in at least two definite phases,[19] the initial heat, which is anaërobic, and the recovery heat, which is largely aërobic. While most of Hill's experiments have involved direct muscle stimulation, this does not make the thermal events atypical, since Hartree has shown that the heat production is identical in time course and in quantity, whether produced by direct or motor nerve maximal stimulation.[20]

The initial heat production occurs early in contractile activity; the delayed or recovery heat is produced even after relaxation is complete.

The close relation of electrical, mechanical and thermal responses has already been indicated.

3. *Chemical Events.*

Recent researches indicate that the chemical processes of muscle function are numerous and complex. The classic experiments of Fletcher and Hopkins[21] showed clearly that lactic acid is produced in muscle function and in anaërobic survival, and disappears in the presence of oxygen. Meyerhof's extensive studies have shown that when lactic acid is formed under anaërobic conditions in the excised skeletal muscle of the frog[22] or of the rat,[23] there disappears an equivalent quantity of glycogen. This is also the case in the excised skeletal, heart and stomach muscles of the tortoise, and the abdominal, skeletal and cardiac musculature of the crayfish.[24,25]

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* Part I of this contribution to this column was printed in the December number of California and Western Medicine, page 899.

There is some evidence that lactic acid can be derived from other sources than glycogen. Boyland's[24] work suggests that in the cardiac muscle of the pig, inisitol serves as a precursor for lactic acid, while Hines, Katz, and Long[26] were unable to find enough glycogen in the cat's heart to account for the production of lactic acid, which is in accord with the findings of Bayliss, Muller, and Starling[27] on the heart-lung preparation of the dog. The researches of Olmsted and coworkers are interesting in this connection,[28] since they show that under some circumstances lactic acid is produced without concomitant change in glycogen.

There is direct evidence that glucose can serve as a precursor of lactic acid in the case of excised frog muscle.[29]

The immediate precursor of lactic acid in muscle is probably hexose monophosphate.[30,31]

There is, then, abundant evidence that lactic acid is produced in the resting and functional metabolism of muscle (quantitative differences only obtain between these two types of activity).[32] That this production is significant in contraction is indicated by the finding of Meyerhof[33] that, in the case of excised frog skeletal muscle, the total tension developed on stimulation is directly proportional to the quantity of lactic acid produced. Redfield and Medearis found the same relation in turtle heart muscle.[34]

Further, the heat produced in muscular contraction can be ascribed almost altogether to the lactic acid cycle.[35] This is also true of the heat produced in anaërobic survival in oxygen-free Ringer's solution,[36] while the recent investigations of Hartree suggest that the same chemical reaction causes both the mechanical work and the heat production of muscular contraction.[37] Evidently lactate metabolism is fundamentally related to muscle function.

The formation of lactic acid in muscle appears to be a self-limiting reaction.[35,38] The changes in acidity occurring in muscular contraction are small on account of the presence of effective buffers.[39,40]

We have seen that there is much evidence that initial heat production in muscle is consequent upon the production of lactic acid,[35] and the findings of Hartree and Hill[41] and of Gasser and Hill[42] suggest strongly that this reaction occurs in the early or contractile stages of the mechanical response. Just how lactic acid causes the mechanical shortening of muscle is a matter of rather wide speculation. Several theories are detailed in Fulton's monograph.[1]

During this time there also occurs an hydrolysis of phosphocreatin[43] and a formation of ammonia from adenylic acid.[44,45] There are also changes in the pyro- and ortho- phosphate ratio. The mechanical significance of these changes is not clear at present.

In the relaxation period (which, like the period of contraction, involves chiefly anaërobic reactions) the lactic acid formed during contraction is neutralized by the several buffer mechanisms present.

Recovery.

1. Thermal aspects: Following the completion of relaxation there is a heat production in muscle which, unlike the initial heat, is chiefly aërobic,[35] although some one-sixth of the aërobic value can be realized in the absence of oxygen.[46]

2. Chemical aspects: The researches of Hill and Meyerhof have shown that the lactic acid formed during contraction is in part oxidized and in part reconverted to glycogen during the period of recovery. According to Meyerhof,[47] the ratio of lactic acid oxidized to lactic acid resynthesized is 1:4.7. It is probable that in the functional metabolism of excised muscle only carbohydrate is burned,[35,47] although much evidence indicates a more diverse mechanism in muscle *in situ*.[48]

The mechanisms of recovery oxidation will be considered in more detail in a subsequent paper.

Both phosphocreatin and adenylic acid are also resynthesized in the recovery period, and the muscle is thus made ready to function again.

John Field, Stanford University.

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[16] Cooper and Eccles. J. Physiol., lxix, 377, 1930.

[17] Eccles and Sherrington. J. Physiol., lxix, Proceedings, i, 1930.

[18] Hill, A. V. Proc. Roy. Soc., ciii, 117, 1928.

[19] Hartree and Hill. Phil. Tr. Roy. Soc., ccx, B, 153, 1920.

[20] Hartree. J. Physiol., lxvii, 372, 1929.

[21] Fletcher and Hopkins. J. Physiol., xxxv, 247, 1907.

[22] Meyerhof. Pfluger's Arch. f. d. ges. Physiol., clxxv, 20, 88, 1919.

[23] Meyerhof and Himwich. Pfluger's Arch. f. d. ges. Physiol., ccv, 415, 1924.

[24] Boyland. Biochem. J., xxii, 362, 1928.

[25] Evans. Physiol. Rev., vi, 358, 1926.

[26] Hines, Katz, and Long. Proc. Roy. Soc., xcix, B, 8, 20, 1925.

[27] Bayliss, Muller, and Starling. J. Physiol., lxv, 33, 1928.

[28] Olmsted and Coulthard. Am. J. Physiol., lxxxiv, 610, 1928.

[29] Hill, A. V. Proc. Roy. Soc., cv, B, 314, 1929.

[30] Annual Reports of the London Chemical Society, xxiv, 260, 1927.

[31] Pryde and Waters. Biochem. J., xxiii, 573, 1929.

[32] Hill, A. V. Proc. Roy. Soc., ciii, 138, 1928.

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STATE MEDICAL ASSOCIATIONS

CALIFORNIA MEDICAL ASSOCIATION*

LYELL C. KINNEY	President
JUNIUS B. HARRIS	President-Elect
EMMA W. POPE	Secretary

COMPONENT COUNTY SOCIETIES

CONTRA COSTA COUNTY

The annual business meeting of the Contra Costa County Medical Society was held at the Hotel Carquinez, Richmond, November 18. The members of the society were hosts to the Woman's Auxiliary before their respective meeting was held.

The annual report of the secretary-treasurer was read and accepted. The attendance at the scientific meetings held throughout the year was considerably larger than in previous years. The membership of the society remains unchanged, the delinquent and transferred members having been made up by new members. The round-table discussion was conducted regarding vital problems of interest to the society. Central supervision of school nurses, inspection of milk, laboratory facilities, meat inspection, and public health matters throughout the county are some of the activities in which the society will strive to interest itself during the coming year. A committee composed of Doctors McCullough, Feldman, and Weil was appointed to make the preliminary survey of the existing conditions along these lines in the county. Their report will be made at the January meeting at which time a definite program of action will be mapped out.

The election of officers for the year 1931 was then held, with the following candidates all elected unanimously: Dr. W. A. Rowell of Crockett, president; Dr. Rosa Powell of Richmond, vice-president; Dr. L. H. Fraser of Richmond, secretary-treasurer.

Dr. P. C. Campbell of Richmond was elected censor for the three-year term, replacing Dr. H. L. Carpenter of Richmond whose time expires January 1.

The application of Dr. H. W. Stirewalt of Concord for membership in the society on a transfer from San Francisco County was referred to the board of censors.

The date of the annual banquet was set for December 6, and the following committee appointed: Doctors Bishop, Clara Spalding, Feldman, and Weil.

It was the consensus of those present that a dinner-dance and entertainment again be put on, as last year's party was the most successful ever held. Crockett was voted the place of choice for this banquet.

The following members were present: Doctors Campbell, Healy, Vestal, Bishop, Blake, Powell, Carpenter, Feldman, Clara Spalding, J. W. Bumgarner and Fraser, all from Richmond; Doctors Rowell and McCullough from Crockett; and Doctor Weil from Rodeo.

* * *

The annual banquet of the Contra Costa County Medical Society was held on Saturday evening, December 6, at the Hotel Carquinez, Richmond. A wonderful dinner was followed by a lengthy program of professional entertainment, and general dancing was enjoyed later. There was a large representation from the dental association, the invited guests of the medical society. All eligible nonmembers had been invited to attend and they were well represented. The approprite Christmas decorations were efficiently handled by the ladies of the auxiliary. A total of fifty-seven persons, fifteen of whom were members, enjoyed what was voted the most entertaining and the largest function ever held by the society. Dr. U. S. Abbott of Richmond acted as toastmaster. Appropriate talks were made by Dr. G. A. Boehmer, president of the Dental Association; Mr. Tsar N. Calfee, deputy district attorney; Dr. J. W. Bumgarner, the retiring president; Mrs. C. R. Blake, newly elected president of the Woman's Auxiliary; and Dr. W. A. Rowell, incoming president of the society.

L. H. Fraser, *Secretary.*

FRESNO COUNTY

The regular meeting of the Fresno County Medical Society was held after dinner at the Californian Hotel, December 2. Forty-five members were present.

After reading and approval of the minutes, the president recommended the appointment of a subcommittee on medical economics to act on the committee of Dr. J. H. Graves. The following committee was appointed: A. E. Anderson, J. D. Morgan, and E. R. Scarboro.

The auxiliary committee on Public Policy and Legislation were appointed: T. W. Madden, C. A. James, and N. J. Dau. Alternate, D. H. Trowbridge.

The report of the nominating committee by Dr. D. I. Aller was read, and the following were nominated: Frank Tillman, president; N. J. Dau, first vice-president; W. F. Stein, second vice-president; E. R. Scarboro, secretary; E. J. Schmidt, assistant secretary. Delegates to the House of Delegates: D. I. Aller and Guy Manson. Alternates, A. E. Anderson and C. O. Mitchell.

It was moved by Doctor Hare, seconded by Doctor James, and carried, that these candidates be unanimously elected to the respective offices.

President Schottstaedt directed the Library Committee to meet with the board of supervisors and determine if it were possible to keep the room containing the medical library open throughout all library hours and report back to the society.

On motion of Collins, seconded by James, a wire of regret was authorized sent to Dr. J. M. Frawley because of the death of his father.

The meeting was then turned over to the Program Committee. Dr. Emmet Rixford, professor of surgery at Stanford University, was introduced and gave a very interesting and instructive lecture on the "Surgery of the Liver and Bile Passages."

J. M. Frawley, *Secretary.*

ORANGE COUNTY

The Orange County Medical Association met in regular session at the Woman's Club in the city of Orange on Tuesday, December 2, at 7 p. m. There were present approximately fifty members and guests, and a delicious dinner, which helped to put all present in a good frame of mind for the business meeting, was served.

We were especially honored by the presence of our state senator, Nels Edward, and Assemblyman Craig at this meeting, who gave talks on legislative problems confronting the medical profession. Senator Edwards explained that close to two thousand bills were introduced at the last session, and inasmuch as it is impossible for any one person to carefully consider all of these in a short time, that our society, when interested in any proposed legislation, explain to our representatives, by telegram or otherwise, the viewpoint of the Medical Association. Assemblyman Craig in his talk stressed the above and showed how there was a real and logical place for the so-called lobbyist.

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* For a complete list of general officers, of standing committees, of section officers, and of executive officers of the component county societies, see index references on the front cover, under Miscellany.

Following these talks the society was called to order by the president for the transaction of business. The minutes of the November meeting were read and approved. The following members were appointed to serve as members of the Orange County Auxiliary Committee on Public Policy and Legislation: H. A. Johnston (chairman), Emerald J. Steen, and James C. Crawford.

The application of Dr. Charles S. O'Toole was read for the second time, and by ballot this applicant was admitted as a member in good standing of this Association.

Election of officers for the coming year was then announced, with the following results: Emerald J. Steen, president; J. Luther Maroon, vice-president; Harry G. Huffman, secretary-treasurer; Charles D. Ball, librarian; George M. Tralle, councilor; Harry E. Zaiser, state delegate; and William S. Wallace, alternate to the state delegate.

The speaker of the evening was Dr. M. W. Hollingsworth of Santa Ana. His subject was "A Review of the Literature on Experimental Work on Cancer." He outlined in detail the various theories as to the cause of cancer and the different treatments used, and reminded us of the fact that as yet there have been no definite results of positive value either in the etiology or treatment of cancer.

Harry G. Huffman, *Secretary.*

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PLACER COUNTY

The Placer County Medical Society held its annual meeting in the administration building of the County Hospital in Auburn on Saturday evening, November 15, with Dr. Max Dunievitz presiding.

There were present the following members and visitors: Members—Doctors Dunievitz, Louis E. Jones, Fay, Monica Stoy Briner, C. C. Briner, Paul D. Barnes, L. B. Barnes, Mackay, Russell, Schofield, Peers, William Miller, Myers, and Lewis. Visitors—Doctors Hale, Gundrum, Harris, Fanning, Cook, and Beach of Sacramento, and Dr. Kindopp of Colfax.

Following the routine business the election of officers for 1931 was held, with the following result: President, R. H. Eveleth of Roseville; vice-president, L. B. Barnes of Newcastle; secretary-treasurer, Robert A. Peers of Colfax; associate secretary, Charles J. Durand of Colfax. Delegate: C. C. Briner of Auburn. Alternate: Carl P. Jones of Grass Valley.

The literary program for the evening followed: Dr. F. F. Gundrum of Sacramento addressed the society on the subject of "Heart Failure."

"Chronic heart failure," he said, "is divided into two groups:

"*Congestive Failure.*—In making a diagnosis of congestive heart failure the history is most important, and particularly the history of a single symptom, *i. e.,* breathlessness manifesting itself at rest or under very slight exertion. Breathlessness produced by congestive heart failure presents confirmatory objective signs, which are: overfilling of veins and swelling of the liver. Breathlessness in bed, not accompanied by these signs, is due to something else.

"*Anginal Failure.*—Diagnosis of this form depends even more upon the history than does the preceding. We have no sure objective method of deciding whether and how much a patient is suffering pain, nor is there any constant finding associated with the symptom complex known as angina. Where we can satisfy ourselves that pain constantly appears when increased functional strain is put upon the heart, then a diagnosis of angina is indicated, regardless of the state of the vessels or of the heart."

Dr. Junius B. Harris, president-elect of the California Medical Association, next addressed the society on the subject of "Erysipelas."

"Erysipelas," Doctor Harris stated, "is a winter disease, and it is well for medical men to discuss seasonal topics. Erysipelas is one of the three clinical entities caused by streptococcus which spreads through lymphatics of the skin. It is an abrupt, acute, circumscribed erythema with irregular, raised border of fiery-red color, which well defined irregular flame-shaped projections give rise to the term 'Saint Anthony's fire.' There is great general toxicity, and complications are common. It is differentiated from deep infection with overriding erythema in that the point of maximum tissue reaction and the point of greatest tenderness are at the periphery of blush; in deep infection these are in center. It has been treated through the ages with hosts of internal and external medication; now with Birkahaug's antitoxin, which is commensurate with diphtheria antitoxin in its curative action." Doctor Harris discussed Birkahaug's work on antitoxin immunity for erysipelas.

The final paper of the evening was by Dr. Nathan G. Hale of Sacramento on "Etiology of Stone in the Urinary Tract." Doctor Hale discussed the cause of formation of stone in the urinary tract from the standpoint of possible underlying causes such as a stone diathesis, lack of vitamins in foods, and infections. The conclusion was that there are three possible causes of stone in the urinary tract: first, cystine calculus due to diathesis; second, dietary deficiency due to lack of vitamins in certain foods, which has been proven, experimentally, in rats by Osborne and Fujimaka and other authors; and third, a focus of infection predisposing patient to stone, as evidenced by the experimental work of Rosenow and Miesser.

Robert A. Peers, *Secretary.*

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SAN BERNARDINO COUNTY

The minutes of the meeting of the San Bernardino County Medical Society held at the County Hospital in San Bernardino on Tuesday, December 2, at 8 p. m.

The meeting was called to order at 8 o'clock by the president, and the minutes of the previous meeting were approved.

It was moved by Doctor Moseley and seconded by Doctor Hilliard that the chairman appoint a committee of three to serve on the Auxiliary Committee on Public Policy and Legislation.

It was moved by Doctor Moseley and seconded by Doctor Hilliard that the chairman appoint a committee of three to serve as a subcommittee on Medical Economics.

The application of Dr. F. X. Olsen for membership in our society was approved.

A proposed change in the by-laws was read and ordered printed in the next program.

A notice from the San Francisco Heart Committee announcing a postgraduate course in cardiovascular disease was then read.

The following program was then given:

Abdominal Allergy, read by Dr. H. Miller and discussed by Dr. G. Piness, both of Los Angeles.

Cardiac Pain, presented by Dr. Robert Langley of Los Angeles and discussed by Dr. G. G. Moseley.

After adjournment at 10:40 o'clock, refreshments were served.

E. J. Eytinge, *Secretary.*

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SAN JOAQUIN COUNTY

The stated meeting of the San Joaquin County Medical Society was held Thursday evening, at eight o'clock, November 6, in the Medico-Dental Club, 242

North Sutter Street, Stockton. The meeting was called to order by H. E. Kaplan.

Thirty-nine were in attendance. Doctors Bernard Kaufman and Stacey Mettier were the two guests and speakers of the evening.

In the absence of the secretary, Doctor Broaddus, the chair appointed Doctor Conzelmann to act as secretary pro tem.

After approval of the minutes the chair announced that the first order of business was the nomination of officers for 1931 at the election at the regular meeting in December.

Dr. Fred R. DeLappe, district councilor, spoke on the recent communication received from the state secretary relative to the physician and surgeon as a witness in court.

Dr. Dewey R. Powell announced that the report of the Committee on Medical Care, conducted by Dr. Nathan Sinai, was completed and that it is hoped that Doctor Sinai will be able to present the report at the December meeting.

The chair reported that the Muldowney-Lucas Printing Company desired to put out a medical directory of Stockton. Several members expressed their opinions on the proposition, but no action was taken.

The chair appointed Doctors Conzelmann, Holliger and Vischi to act as tellers, the ballots to be counted before the meeting and the report of the results are to be announced at the annual meeting.

The chair presented Dr. Bernard Kaufman of San Francisco, who read a very scientific paper on "Precordial Pain." He suggested that in certain cases section of the phrenic nerve relieves the pain.

The paper was discussed by Doctors Barnes, English, and McGurk.

The chair presented Dr. Stacey Mettier of San Francisco, who read a very practical paper on "The Treatment of Anemia," which was discussed by Drs. Williamson, Sutton, Gallegos, Dozier, and English.

The chair expressed the thanks and appreciation in behalf of the society to the speakers of the evening.

Fred J. Conzelmann, *Secretary Pro Tem.*

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SANTA BARBARA COUNTY

The regular meeting of the Santa Barbara County Medical Society was held in the St. Francis Hospital Monday evening, December 8, with President Hugh Freidell presiding.

After reading and approval of the minutes, a communication from Dr. John H. Graves, chairman of the Committee on Medical Economics of the California Medical Association, was read. Doctor Graves requested that the society appoint a member to serve with him on the subcommittee of the Committee on Medical Economics. It was moved, seconded, and carried unanimously that Dr. Rexwald Brown be so appointed.

The January meeting being the annual meeting, it was moved by Doctor Bakewell, seconded and carried, that the officers of the society make all necessary arrangements for this meeting.

The president then introduced Dr. D. S. Beilin of Augustana Hospital, Chicago, who gave a very interesting and instructive paper on "The Diagnosis in Obscure Clinical Conditions from an X-ray Standpoint," illustrated by x-ray pictures.

The president then introduced three visitors: Drs. Martin of Dallas, Texas; Rhinehart of Little Rock, Arkansas; and Giles of Temple, Texas.

Doctor Beilin's paper was discussed by Doctor Martin (who also gave a short résumé on "Radiotherapy in Cancer of the Lip,") and by Doctors Geyman and Giles.

Dr. Rexwald Brown followed with a talk on "Medical Impressions at the League of Nations." This paper was extremely interesting to all members of the profession, as Doctor Brown showed the stupendous advancement made by the health section of the League of Nations. He also discussed sickness insurance as applied in the various countries, and specifically gave the working program as worked out by the medical authorities in Great Britain.

William H. Eaton, *Secretary.*

CHANGES IN MEMBERSHIP

New Members

Kern County—Samuel Calvin Long.

Orange County—Charles Sylvester O'Toole.

San Diego County—Morton Nicholas Carlile.

Resignations

Isabella M. Clinton, from San Francisco County.

Alfred H. Washburn, from San Francisco County.

Transferred

Edith Harrison, from Humboldt to Butte County.

Fred Harrison, from Humboldt to Butte County.

Ernest Vieria, from Monterey to Sonoma County.

Deaths

Arthur, Samuel Richard. Died at Woodbridge November 26, 1930, age 56 years. Graduate of University of California Medical School, San Francisco, 1899. Licensed in California, 1899. Doctor Arthur was a member of the San Joaquin County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

Bowman, William B. Died October 20, 1930, age 45 years. Graduate of St. Louis University School of Medicine, Missouri, 1910. Licensed in California, 1910. Doctor Bowman was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

Jones, David Newton. Died October 24, 1930, age 74 years. Graduate of Rush Medical College, Chicago, 1890. Licensed in California, 1918. Doctor Jones was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

Mason, Cleon Carl. Died at Long Beach December 7, 1930, age 42 years. Graduate of Johns Hopkins University School of Medicine, Baltimore, 1921. Licensed in California, 1921. Doctor Mason was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

Smith, Lonzo Virgle. Died October 30, 1930, age 50 years. Graduate of Willamette University Medical Department, Salem, Oregon, 1906. Licensed in California, 1924. Doctor Smith was a member of the Los Angeles County Medical Association, the California Medical Association, and the American Medical Association.

THE WOMAN'S AUXILIARY OF THE CALIFORNIA MEDICAL ASSOCIATION*

Los Angeles County Auxiliary

The president, Mrs. James F. Percy, called the meeting to order at 2:40 p. m., Thursday, October 16, at 940 South Figueroa Street.

The minutes of the previous meeting were read and approved.

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* As county auxiliaries to the Woman's Auxiliary of the California Medical Association are formed, the names of officers should be forwarded to the state secretary-treasurer, Mrs. Dexter R. Ball, 2419 Bonnie Brae Street, Santa Ana, and to the California Medical Association office, Room 2004, 450 Sutter Street, San Francisco. Brief reports of county auxiliary meetings will be welcomed for publication in this column.

Mrs. E. M. Lazard announced a special meeting for November 14 for the purpose of adopting new by-laws. She also spoke of a proposed amendment to the California laws which, if passed, would exempt nonprofit hospitals from taxation.

Mrs. P. A. Quaintance told of the proposed visit to the East Side Health Center on Tuesday, October 21 and urged all members to be present on this tour of inspection.

Mrs. F. E. Coulter, state program chairman, outlined two possible programs, for one year's study, on the activities of a county health unit.

Dr. John L. Pomeroy, county health officer, discussed the work and activities of a county health center, and Dr. R. V. Stone presented a film on "Water" and discussed that subject.

* * *

The meeting was called to order Thursday, November 20, at 2:15 p. m. by the first vice-president, Mrs. Philip S. Doane.

The following call for the meeting was read by the secretary: "A special meeting of the Woman's Auxiliary to the Los Angeles County Medical Association is hereby called for Thursday, November 20, at 2 p. m. at the Friday Morning Club building, 940 South Figueroa Street. The purpose of this meeting is to take action upon the proposed new by-laws. All members are urgently requested to be present."

The proposed by-laws were read by Mrs. E. M. Lazard, chairman of Revision Committee. It was moved by Mrs. Lazard, seconded by Mrs. Jesberg, that these by-laws be approved and accepted. Carried.

The following telegram was read from the president: "My greetings, love and best wishes to you all. The state officers shall hope to accomplish constructive work also. At National Board meeting at Chicago, representatives from Minnesota to Texas and New Jersey to California reported twenty thousand members in thirty-eight states. Los Angeles County Auxiliary largest single unit. Mrs. James F. Percy."

Moved, seconded, and carried that a vote of thanks be given Mrs. Lazard and her committee for their worthy work on the by-laws.

The following nominating committee was appointed by the chair: Mesdames B. von Wedelstaedt, Robert V. Day, Egerton Crispin, Charles R. Chapman, and Herbert T. Brooks.

* * *

Mrs. James F. Percy called the meeting to order at 2 p. m. on Thursday, December 18, at 940 South Figueroa Street. After the minutes of the regular and special meetings were read and approved, the reports of the officers and committees were presented.

The Nominating Committee submitted the following names: For president, Mrs. Philip S. Doane; first vice-president, Mrs. William T. McArthur; second vice-president, Mrs. Harry V. Brown; secretary-treasurer, Mrs. Eliot Alden; directors, Mrs. John V. Barrow, Mrs. John F. Chapman, Mrs. Scott D. Gleeten, Mrs. Theodore C. Lyster, Mrs. Edward M. Pallette, and Mrs. B. von Wedelstaedt.

Moved, seconded, and carried that the nominations be closed and that the secretary be instructed to cast a ballot for the entire ticket.

Installation of officers followed.

Mrs. Philip S. Doane announced Mrs. George G. Hunter as corresponding secretary for the ensuing year.

The president introduced Dr. C. Morley Sellery, who spoke about "Physical Defects and Their Correction in Relation to the School Health Program."

After a musical skit by Mesdames Marxmiller, Wheat, and de Bealieu the meeting adjourned for tea.

Ella R. Carter, *Secretary.*

Orange County Auxiliary

The December meeting of the Woman's Auxiliary of the Orange County Medical Association was held on the second of the month at the home of Mrs. F. E. Coulter, president, with a large number of members in attendance.

After the routine business the report of the Nominating Committee for the election of new officers was read. "The Nominating Committee recommends that the present officers of the auxiliary serve for one more year. In submitting this recommendation, it is not the intention of the committee to establish a precedent. But inasmuch as the auxiliary, both state and county, has been in existence such a short time, and both state and county by-laws are still in the making, it would seem the better policy to let those individuals who have begun this organization work to be permitted to complete it rather than make a change of personnel at this time. For president, Mrs. F. E. Coulter; first vice-president, Mrs. H. A. Johnston; second vice-president, Mrs. D. C. Cowles; secretary-treasurer, Mrs. G. Emmett Raitt.

A motion was made and carried that the secretary cast the unanimous ballot of the auxiliary in favor of these officers.

A brief discussion of some new discovery in medicine is an instructive feature of each program. Mrs. G. W. Olsen contributed to the December meeting an able résumé of the work done in spinal anesthesia; Mrs. H. A. Johnston read, in charming fashion, an article by Alma Whitaker on "The New Aristocracy." Mrs. H. D. Newkirk reviewed in a thorough and interesting way Menninger's "The Human Mind."

Mrs. James F. Percy, state president, then gave the highlights of the meeting of the national officers of the auxiliary of the merican Medical Association held in Chicago in October.

The members adjourned to the tea table, colorful with Christmas decorations and refreshments.

Jessie Q. Raitt, *Secretary.*

NEVADA STATE MEDICAL ASSOCIATION

W. A. SHAW	President
R. P. ROANTREE, Elko	President-Elect
H. W. SAWYER, Fallon	First Vice-President
E. E. HAMER, Carson City	Second Vice-President
HORACE J. BROWN	Secretary-Treasurer
R. P. ROANTREE, D. A. TURNER, S. K. MORRISON	Trustees

COMPONENT COUNTY SOCIETIES

WASHOE COUNTY

The concluding meeting of the Washoe County Medical Society for 1930 was held at Hutton's Hut, Reno. The retiring president, E. E. Hamer, secretary of the Nevada State Board of Health, was the host of the occasion.

The first order of procedure was dinner, which the society enjoyed thoroughly. A feeling of splendid friendship prevailed, and it was the consensus of opinion that more of these get-together meetings would strengthen professional fellowship.

The usual business of the society was transacted, including the reading of the fiscal report by the secretary-treasurer and recommending that from now on the annual dues be $10. This resolution was adopted. There were fifty members in good standing, which number included four as living in California and eight outside of Washoe County, giving thirty-eight as a net Washoe County membership.

The election of officers resulted as follows: Doctor Creveling, vice-president, was elected president; Doctor Sullivan was elected vice-president; Doctor Bath was reëlected secretary-treasurer; and Doctor Servoss was reëlected censor.

The new president was authorized to select a program committee to assist the secretary. Two brief papers were read, one by Doctor Walker, physician to the Reno schools, relating to health supervision in public schools. Doctor Walker had returned from a trip at Fort Worth, Texas, where he had attended a national meeting of the Public Health Association of which Surgeon-General Hugh S. Cumming was president. This society was invited by the Mexican Government to hold an adjourned session in Mexico City, which was done. About 250 attended. In Mexico City the conference was headed by Doctor Silvo, eminent Mexican physician and head of the public health department of the Mexican Government. Every social and professional courtesy was extended to the American delegates. This expression of good feeling was a fine diplomatic measure which could result in nothing but better coöperation between the two great republics of North America. Doctor Hamer followed with a review of the medical status of Nevada. His paper was excellent and well received.

There were twenty-seven doctors present, including Doctor Peters, United States naval officer, stationed at Hawthorne, Nevada.

Thomas W. Bath, *Secretary.*

UTAH STATE MEDICAL ASSOCIATION

WILLIAM L. RICH, Salt Lake City........................President
R. A. PEARCE, Brigham City........................President-Elect
M. M. CRITCHLOW, Salt Lake City........................Secretary
J. U. GIESY, 701 Medical Arts Building, Salt Lake City........................Associate Editor for Utah

COMPONENT COUNTY SOCIETIES

SALT LAKE COUNTY

The regular meeting of the Salt Lake County Medical Society was held at the Newhouse Hotel Monday, November 10.

The meeting was called to order at 8:10 p. m. by President M. M. Nielson. Fifty-one members and one visitor were present.

M. C. Lindem read a paper on "The Recent Advances of the Knowledge of Toxic Goiter," which was discussed by Ralph Richards. William Bender of San Francisco spoke upon the "Clinical Significance of Abnormalities of the Sigmoid Colon." This paper was discussed by L. G. Paul, H. S. Scott, G. Richards, J. P. Kerby, and W. R. Tyndale.

F. B. Bailey gave the following report for the Special Committee to investigate the advisability of the purchase of the Drinker respiratory apparatus by the city:

"We, your committee, appointed to investigate the Drinker respiratory apparatus, have corresponded with a number of cities and read the available literature in reference to the need and possible value of this apparatus in our community.

"There is no question in the minds of the members of the committee that this is a very valuable and efficient apparatus.

"This apparatus has proven of value where there are large epidemics of infantile paralysis. Fortunately our community has been singularly free from this disease in epidemic form, and so far as we have been able to ascertain there have been no cases of respiratory paralysis.

"The cost of the apparatus in Salt Lake City would be approximately twenty-three hundred dollars. Up to the present time constant mechanical improvements are being made on the apparatus.

"After consideration from the above facts, it is our opinion that the purchase of this apparatus for our community would not be advisable at the present time.

"There is no expense attached to this investigation."

G. G. Richards moved that the report be adopted and filed, and a copy be sent to the Radium Corporation.

President M. M. Nielson announced that on Tuesday evening, November 11, there would be a joint meeting of the Box Elder County, Cache County and Weber County Medical Societies at Brigham City, and that Doctor Bender of San Francisco would speak on "Poliomyelitis and Encephalitis." Members of this society were invited to attend.

* * *

The regular meeting of the Salt Lake County Medical Society was held at the St. Mark's Hospital on Monday, November 24.

In the absence of President M. M. Nielson and Vice-president F. M. McHugh the meeting was called to order by C. M. Benedict at 8:10 p. m. Twenty-nine members and two visitors were present.

The clinical program, conducted by M. C. Lindem, was as follows: Tuberculosis of the Hip, by A. L. Huether; Bronchoscopic Methods of Treatment, by Leroy Smith; Subphrenic Abscess, by O. Ogilvie; Purpura Hemorrhagica, by M. M. Critchlow.

S. C. Baldwin moved that a letter of condolence be sent to I. A. E. Lyons in his recent bereavement. Motion seconded and carried.

An announcement was made regarding a farewell to be given J. W. Aird by the members of the Provo County Medical Society early in December.

The meeting adjourned at 9:20 o'clock, after which refreshments were served.

Barnet E. Bonar, *Secretary.*

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UTAH COUNTY

The Utah County Medical Society held its meeting at the Hotel Roberts on November 19.

The following members were present: Doctors R. G. Clark, J. W. Aird, J. L. Aird, Robison, J. R. Anderson, Curtis, Hasler, Hagan, Neill, F. R. Taylor, Albert Taylor, Cullimore, and Grua. Doctor Jack was a visitor.

Doctor Ogilvie of the Wasatch Laboratory of Salt Lake gave two very interesting short papers. (1) "Factors Concerned in the Etiology of Subphrenic Abscess, Together with Notes of Symptoms and Differential Diagnosis." (2) "Etiological Factors in Lung Abscess, Together with Some Points on the Types. of Treatment." An interesting discussion then followed in which Doctor Ogilvie explained numerous laboratory aids to diagnosis.

Dr. F. R. Taylor gave a minority report of his investigation into the feasibility of the Utah County Medical Society buying an electrocardiograph machine. In this report he mentioned the probable two best sites for the installation and use of this machine: (1) The City and County Building, using the County Health Unit nurse as technician. (2) The Utah State Mental Hospital, using a nurse or attendant there as technician. A motion was passed and seconded that the secretary of the society write the individual members of the society for a complete vote on whether or not the machine should be bought, as the cost to each member would probably amount to $25.

J. L. Aird, *Secretary.*

⁂

WEBER COUNTY

The regular meeting of the Weber County Medical Society was held November 20 at the Hotel Bigelow.

The following officers were elected for the ensuing year: E. P. Mills, president; George Fister, vice-president; Conrad Jenson, secretary; S. W. Badcon, treasurer.

The following were elected as state delegates for the ensuing year: W. R. Brown, Clark, Rich, L. S. Merrill; and as alternates, E. P. Mills, Wallace Budge, George Fister.

During the evening Dr. Clark Rich gave an instructive and interesting account of his observations while in Europe.

Conrad H. Jenson, *Secretary.*

MISCELLANY

Items for the News column must be furnished by the twentieth of the preceding month. Under this department are grouped: News; Medical Economics; Correspondence; Department of Public Health; California Board of Medical Examiners; and Twenty-five Years Ago. For Book Reviews, see index on the front cover, under Miscellany.

NEWS

The Tri-State Section of the American College of Surgeons will meet in Oakland on April 25 and 26, 1931.

Postgraduate Course, San Francisco Heart Committee of the San Francisco County Medical Society. The San Francisco Heart Committee which was organized in January 1930, with Dr. William J. Kerr as chairman, has just completed an interesting postgraduate course on heart disease. This course was given without fee and was arranged by the subcommittee on Education and Publicity, of which Dr. John P. Strickler is chairman. There was a total attendance of 356 doctors, and sixty-five cities of California were represented in this number. Many expressions of appreciation for the course were received from the registrants, and it is the hope of the committee to offer a similar course each year.

Tuesday, December 9, the clinic was held at University of California Hospital, Dr. William J. Kerr presiding; Wednesday, December 10, Stanford University Hospital under Dr. Arthur L. Bloomfield, and on Thursday, December 11, Letterman General Hospital, the Presidio, Major W. C. Munly, M. D., presiding.

Meeting of Pacific Coast Surgical Association.—The coming meeting of the Pacific Coast Surgical Association will convene on February 27 and 28, 1931, at Victoria, B. C.

Dr. P. J. Hanzlik, professor of pharmacology in the Stanford University School of Medicine, San Francisco, gave a series of lectures in southern California from December 16 to 19. The series included lectures on bismuth compounds in antisyphilitic therapy, metallotherapy of edema, intravenous therapy, and colloidal dyes in intoxications and will be delivered before the San Diego Academy of Medicine, Long Beach Academy of Medicine and Galen Club, and Los Angeles Hewlett Club.

The New York Polyclinic Medical School and Hospital opened its new private pavilion and operating rooms December 29 and 30. The appointments of Dr. George D. Stewart as consulting surgeon and Doctors Evan Evans, Orrin S. Wightman and C. N. B. Camac as consulting physicians to the hospital have been announced.

Former Hooper Foundation Director Receives Prize.—Dr. George H. Whipple, who was director of the Hooper Foundation for Medical Research in the Medical School of the University of California from 1914 to 1921 was recently honored by being selected to receive part of the annual award of the *Popular Science Monthly* for the current advancement of science to the greatest benefit of the public. The award was given for the effective service rendered in the treatment of pernicious anemia.

TWENTY-FIVE YEARS AGO *

EXCERPTS FROM OUR STATE MEDICAL JOURNAL

Vol. IV, No. 1, January 1906

From some editorial notes:

A Nice Business.—The business of making nostrums and foisting them upon the medical profession first, and in that way upon the people later, is a particularly nice, clean, and honorable one—perhaps. At any rate it is an extensive calling, and represents the investment of a good deal of capital in—shall we say, fraud? Believing that some of our members possibly do not see as many medical journals as come through our office, we have taken the liberty of reproducing some of their advertising pages so that you may see for yourselves what sort of valuable and beneficent products are presented to the medical profession—a profession that is supposed to be made up of educated, thinking men. . . .

. . . Explain to your friends and patients that practically every newspaper in the United States is a silent partner in the nostrum fraud business. That it is bound to silence and to aid in defrauding the people into using alcoholic nostrums by the following clauses in its advertising contracts with the nostrum trust:

First: It is agreed in case any law or laws are enacted, either state or national, harmful to the interests of the ———, that this contract may be cancelled by them from date of such enactment, and the insertions paid for pro rata with the contract price. . . .

From an article by Doctor McCormack of Kentucky on Organization of the Medical Profession:

Most of the meetings of county medical societies in the past, and many at the present time, are not of very great value. In too many instances the proceedings will be about as follows: A summary of minutes will be read, and then Doctor Blank will be called upon to read a paper. This is liable to be upon the treatment of typhoid fever, proper management of labor, or, if it is in the spring, on the summer diarrhea of infants. The paper is made up of extracts from some long-since antiquated textbook, and both it and the author should have had several new editions brought out to bring it up to date. After the paper is read there will be a profound silence, until the presiding officer states that the paper is now before the society and calls upon Doctor X to open the discussion. Doctor X arises and his discussion is apt to be about as follows: "Mr. President and fellow members, I fear that I have not been so regular an attendant at the meetings of our county society in the past as I should have been. But when I listen to such an excellent paper as has been presented to us tonight by Doctor Blank, I feel that I shall be more regular in the future. Doctor Blank has presented such a masterly paper and has placed the information so clearly before you that there seems to me to be nothing left that I can add to what he has said. I will therefore ask you to excuse me and call upon some other member, who may possibly be able to add to the subject under discussion." That sort of a meeting is almost enough to make any studious and hard-working physician keep away from his county society more industriously than ever.

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* This column strives to mirror the work and aims of colleagues who bore the brunt of state society work some twenty-five years ago. It is hoped that such presentation will be of interest to both old and recent members.

By contrast, consider what a county society should do, and what a few are doing at the present time. Its secret of success is in work. . . .

From an article on "The Spirocheta Pallida" by Sanford Blum, M. D., San Francisco:

The *Spirocheta pallida* was first recognized by Schaudin in a smear preparation obtained from a secondary syphilitic papule in March 1905. The preparation was examined fresh and the Spirocheta was first observed in its motile state. Subsequently Schaudin and Hoffman succeeded in staining the organism and studied it also in the colored preparation. . . .

From an article on "The Relation of Bacteria to the Development of Gall Stones—A Report of Experimental Studies, with a Review of the Literature" by August Jerome Lartigau, San Francisco:

The results of recent experimental studies upon the relation of bacteria to the formation of gall stones have been sufficiently striking to justify newer points of view of the pathogenesis of this disease. It is now definitely known that the phenomena involved in the development of cholelithiasis are closely related to bacterial infection of the gall bladder. . . .

San Francisco County.—At the regular meeting for December, Doctor Rixford, the president, in the chair, Dr. Thomas W. Huntington presented a patient upon whom he had operated, trephining and tunneling into the head of the femur for supposed beginning hip-joint disease, and read a paper upon this operation. It was extensively discussed by several members, all of whom seemed to differ with the author as to the value of advisability of the operation in the condition named. . . .

. . . The board of directors met in the office of the state society, Y. M. C. A. Building, Tuesday evening, December 19, and elected the following officers of the society for the ensuing year: President, Wallace I. Terry; first vice-president, Henry Gibbons, Jr.; second vice-president, Harold Brunn; treasurer. Emmet Rixford; secretary, H. E. Alderson.

MUCH IN LITTLE *

A knowledge of anatomical anomalies saves embarrassment in the operating room.

The most common admission of ignorance is a diagnosis of neurasthenia.

Many patients have lost their appendix and gall bladder when the underlying pathology was subcostal neuralgia or spinal cord tumor.

Iritis and conjunctivitis are not synonymous, though often treated as such; even the eye withstands many insults.

Non-surgical drainage of the gall bladder allows the source of income to remain intact.

The self-made surgeon marks his trail with granite; a five-year assistantship would postpone many funerals.

The habit of regular defecation surpasses all other regulators of the bowel.

Brevity and precision in word selection adds much to any scientific writing.

LEGISLATION

The members of the Seventy-first Congress, from the states of California, Nevada, and Utah, are as indicated below. (See reference to this list in editorial on Shepard-Towner Acts in this number of California and Western Medicine, page 58.

Each of these may be addressed care of United States Senate or United States House of Representatives, Washington, D. C.

California Senators

Hiram W. Johnson
Samuel M. Shortridge

California Congressmen

Clarence F. Lea
Harry L. Englebright
Charles F. Curry
Mrs. Florence P. Kahn
Richard J. Welch
Albert E. Carter
Henry E. Barbour
Arthur M. Free
W. E. Evans
Joe Crail
Philip D. Swing

* * *

Nevada Senators

Key Pittman
Tasker L. Oddie

Nevada Congressman

Samuel S. Arentz

* * *

Utah Senators

William H. King
Reed Smoot

Utah Congressmen

Don B. Colton
Elmer O. Leatherwood

CORRESPONDENCE

Subject of Following Letter: Earliest Records of "Copyrights"

Beginning in the July 1930 number of California and Western Medicine, Professor Rosenberg contributed three articles to the Lure of Medical History column, on the subject of "Sixteenth Century German Medicine." In the July number, page 509, comment was made on the presumable copyright of the "Artzneybuch." The enclosed letter bears on this subject, and as a matter of historical interest is here reprinted:

Los Angeles, December 17, 1930.

Mr. William Brown.
Registrar U. S. Copyright Office,
Washington, D. C.

My dear Mr. Brown:

Some weeks ago I mailed you a copy of my article "Sixteenth Century German Medicine," being a reprint of my paper in the July, August, and September issues (1930) of California and Western Medicine. On page 9 of this brochure your letter to the editor of the magazine, Dr. George H. Kress, is printed with regard to the early examples of copyright which the sixteenth century book I discuss appears to represent:

"It does not appear that copyright in the modern sense of the term existed in any country during medieval or late medieval times. There was a system of licensing by the Crown for the printing of books, but this was mainly to raise revenue and exercise censorship. The first real copyright enactment for the protection of authors was the well-known British Statute of Anne entitled 'An Act for the Encouragement of Learning,' passed in 1710."

In view of your statement, it may interest you what Dr. Charles Singer, the eminent medical historian who lectured in this country during the present year, has to say on the subject. He writes me from London under date of November 18:

" . . . Just one little point. A system of 'copyright' held within the Empire from about 1515 onward. The Emperor gave exclusive right to one man to print a particular book. The earliest medical book to secure this copyright that is known to me is the 1519 Vienna Alsaharavius. But I dare say that there are others earlier."

I thought you might be glad to have this information.

With best wishes of the season,

Cordially yours,

S. L. MILLARD ROSENBERG,
Professor of Spanish in the University of California at Los Angeles.

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* Members of the California, Nevada and Utah Medical Associations are invited to contribute to this column of aphorisms, which will appear from time to time in California and Western Medicine, as sufficient copy accumulates. The aphorisms in this issue were sent in by John Hunt Shephard, M. D., San Jose.

DEPARTMENT OF PUBLIC HEALTH

By W. M. Dickie, *Director*

Communicable Diseases in 1930.—The first ten months of the present year have brought to California outstanding epidemics of acute anterior poliomyelitis, food poisoning, trichinosis and measles. Chickenpox, whooping cough and mumps have also been extremely prevalent during the first ten months of the year.

Diphtheria, influenza, smallpox, typhoid fever, epidemic meningitis and dysentery are conspicuous because of their extremely low prevalence. Compared with the years 1927, 1928 and 1929, the first ten months of 1930 show an abnormal prevalence of the more common communicable diseases, such as measles, mumps and chickenpox. They also show an abnormal prevalence of the more unusual epidemic diseases, such as acute anterior poliomyelitis, food poisoning, undulent fever and trichinosis.

As a matter of fact, 1930 will long be remembered because of the extremely severe outbreak of epidemic poliomyelitis. This represents the most outstanding epidemiological feature of the present year.

Quarantine Scarlet Fever Twenty-one Days.—The attention of health officers is called to Rule 7 of the State Department of Public Health Regulations for the Control of Scarlet Fever, as revised September 13, 1930. This rule reads as follows:

"Rule 7. Release from quarantine and isolation.

"The quarantine specified in Rule 5 shall continue until twenty-one days have elapsed after the onset of the disease and as much longer as is necessary for the complete disappearance of inflammation of nose and throat and cessation of discharges from nose, throat, ears or suppurating glands."

Large Families in California.—A report of the United States Bureau of the Census for the year 1928, which has just been received, shows that out of 83,536 births which occurred in California during that year, 29,113, or 35 per cent, were the first births to occur in the families concerned; 20,503 births which occurred during that year were the second births to occur in the families involved—this represents 22 per cent of the total births which occurred during that year; 12,265 births were the third to occur in the families concerned—this is almost 15 per cent of the total births which occurred during that year. After the third birth in a family, additional births occur more rarely. During 1928 there were 7668 fourth births, 4712 fifth births and 3215 sixth births. During that year the tenth birth occurred in no less than 666 families; the twelfth in 254 families; and in one family the twenty-first birth occurred. While larger families are found in many states other than California, it is believed that this state represents a fair average in the numbers of children that are born to California parents.

Season for Gas Poisoning Begins.—In spite of the wide publicity that is given to poisoning from carbon-monoxide gas, many deaths from this cause occur in California each year, but particularly during the winter months. Most of these deaths are due to carelessness in the installation or operation of gas appliances or to careless disposal of exhaust fumes from gasoline motors. Every gas appliance should be vented to the outside air and all gas connections should be leakproof. Automobile motors should never be permitted to run in a closed garage or other enclosed space.

Simple precautions in the operation of gas appliances and automobiles would prevent close to one hundred deaths from carbon-monoxide poisoning that occur in California annually. It is surprising to find that many gas water heaters and ranges are not vented to the outside air. Gas water heaters are often placed in closets opening into kitchens with no provision for venting the exhaust fumes. Space heaters, in bedrooms, with rubber hose connections are also responsible for many deaths. Too often the rubber hose deteriorates, becomes leaky or is accidentally disconnected. Proper precautions against these accidents would prevent many deaths.

The exhaust gases from automobiles are so insidious that many persons are overcome before they realize that they are in danger. It is unwise to take any chances in the matter. No motor should be permitted to run in a closed garage. In commercial garages, where mechanics are employed, provision should be made for proper ventilation of the premises. Many cases of nonfatal industrial illness are due to inhalation of carbon-monoxide gas.

It is customary at this season of the year for health departments to issue warnings relative to the dangers that lie in carbon-monoxide gas. If the warning were heeded everywhere, many needless deaths might be prevented.

Sanitary Engineering.—The Bureau of Sanitary Engineering made a survey of all sanitary engineering work in the Imperial Valley, in coöperation with local health authorities. This survey involved municipal projects in both sewage disposal and water supply.

At the request of the Fish and Game Commission, an investigation was made of the effect of the Big Bear Hatchery on the creek into which its waste water is discharged. Plans were made for making a study of the effect of milk wastes upon fish in a small stream in Sonoma County. This study is to be undertaken in coöperation with the Fish and Game Commission and the University of California College of Agriculture, at Davis.

The joint study of the pollution problems in relation to the proposed establishment of a salt water barrier in the San Pablo Bay is still under way.

Postage Required for Laboratory Specimens.—The attention of all health officers in the state is directed to the following letter from the Surgeon General of the United States Public Health Service relative to the necessity for placing postage stamps upon all packages containing laboratory specimens for examination in the State Bacteriological Laboratory at Berkeley.

Treasury Department
Bureau of the Public Health Service
Washington
October 20, 1930.

To Collaborating Epidemiologists of the United States Public Health Service.

The Post Office Department has requested the Public Health Service to instruct its collaborating epidemiologists relative to the use of penalty envelopes, cards, and labels.

It appears that the chief of a state hygienic laboratory had penalty labels printed and sent a notice to assistant collaborating epidemiologists in the state informing them that they could send specimens to the State Laboratory, using the labels without payment of postage.

The Post Office Department refers to provisions of law limiting the penalty privilege to "matters relating exclusively to the business of the Government of the United States" and to other laws requiring that all printing for government departments must be done at the Government Printing Office at Washington, and that all envelopes used by the departments must be purchased under contracts made by the postmaster general.

The sending of specimens to a State Laboratory is not "exclusively the business of the Government of the United states."

The use of penalty envelopes, cards and labels is regulated by law and it is necessary to comply strictly with the provisions of the law. The Public Health Service does not have any authority to authorize their use in any way not contemplated by the law.

Respectfully,
(Signed) H. S. Cumming,
Surgeon-General.

CALIFORNIA BOARD OF MEDICAL EXAMINERS

By C. B. Pinkham, M. D.
Secretary of the Board

Issuance of licenses to forty-four new physicians and surgeons in California, eighteen of them San Franciscans, was announced by the State Board of Medical Examiners on November 28, 1930, these licenses being based on the October examinations.

The highest mark in the tests was made by Dr. Homer A. Casey, graduate of Northwestern University Medical School, Chicago, and now connected with the Fairmont Hospital, San Leandro.

Dr. Charles B. Pinkham, state board executive officer, listed the successful applicants for licenses as follows:

Albert Ringstrom Agmar, Parry Douglass, Hermann Frederick Erben, Claudius Young Gates, John Henry Golden, George John Heppner, Charles Robert Kennedy, John Borchert Lagen, William Herrick Northway, Donovan Carl Oakleaf, Wallace Benson Parkinson, Armando Joseph Pereyra, Roy J. Popkin, Henry Covington Rixford, Gilbert Jay Roberts, William Artall Sumner, Dumas Joseph Testa, and Glen Park Vincent, all of San Francisco.

Anne Fairchild, William Merriott Gibbs, Herbert Lawrence Hersher, Richard Edward Morris, Floyd Cornelius Taggart, and David Henry Unsell, Los Angeles; Elmer McKinley Bingham, Riverside; Victor Emanuel Campbell, Palm Springs; Milo Bourke Fuller, Hollywood; Harry Osborne Lovell, Glendale; James Rae Paterson Nicoll, Long Beach; Albert Frederick Stalhorn, Rosemead; John Asher Wallace, San Bernardino; Richard Leslie Ward, Pasadena; James Faison McAnally, Reprisa. ,

Hyrum Clessimore Crockett, Harris Davis Loe and Ellert Emanuel Lundegaard, Oakland; John Lorin Aird, Provo, Utah; Homer Alonzo Casey, San Leandro; John Michael Dunphy, Palo Alto; August Lorenz Fipp, Glandorf, Ohio; John Benjamin McConnell, National City; Robert Fisher Monteith, San Mateo; French Robert Moore, Mare Island.

Conrad J. Anderson, also known as C. F. Holst, according to reports, was on November 14 convicted in the courts of Los Angeles of violation of the Medical Practice Act and sentenced to pay a fine of $500 and serve ninety days in the county jail, he having given notice of appeal. The investigation report shows that this individual was alleged to be fleecing the sick and afflicted by his cosmic ray and other treatment. On November 20 he was again found guilty of violation of the Medical Practice Act in the Los Angeles court and again sentenced to pay a fine of $500 and serve ninety days in the county jail. This last jail sentence was suspended on condition that he pay the fine imposed and serve the ninety-day jail sentence imposed at his first conviction. He gave notice of appeal and was released on $500 bond.

"Accused of quackery and of using the mails to defraud in connection with an asserted fake cure for tuberculosis, four persons pleaded not guilty before United States District Judge Hazel. The defendants are Charles F. Aycock, head of the concern; Glen S. Jordan, George T. Lester, and Martin H. Lester. The action was continued until December 15 to be set for trial" (Los Angeles *Record,* November 18, 1930). (Previous entry, June 1928; April 1929.) (See "Nostrums and Quackery," second edition, page 169.)

"Grover C. Bohannon, owner of the Bohannon Cancer Institute in Berkeley, who was arrested in a raid on his establishment in October, was fined $4000 by Superior Judge Fred V. Wood in Oakland today on his plea of guilty to conspiracy to violate the Medical Practice Act. It was the largest fine ever imposed in Alameda County. Bohannon was originally indicted on five felony conspiracy counts, but four were dismissed and the fifth reduced to a misdemeanor. The conspiracy charge against Dr. Deon A. True (Crew), house surgeon at the cancer institute, arrested with Bohannon, was dismissed by the court on motion of Paul St. Sure, assistant district attorney" (San Francisco *Call-Bulletin,* July 11, 1930). (Previous entry, March 1927.)

On September 27, 1930, W. J. Conway, mentioned in October 1930 "News Items," as the Chico Indian Medicine Man, is reported to have pleaded guilty to a charge of violation of the Medical Practice Act in the Court of Justice of the Peace Newton of Chico and paid a fine of $100.

"The state's appeal from a decision of the District Court of Appeal, granting Dr. George Darrow, convicted of second degree murder growing out of an alleged illegal operation, a new trial, was taken under submission yesterday by the State Supreme Court. Doctor Darrow, an Azusa physician, was convicted in the Superior Court" (Los Angeles *Illustrated Daily News,* December 3, 1930). (Previous entries, September, October, and December, 1929; January, March, and September, 1930.)

Dr. Cecil R. Drader of Greenville, recently found guilty of a narcotic charge and sentenced to ninety days in the county jail, has been cited to appear before the Board of Medical Examiners at the meeting which opens in Los Angeles February 3, 1931, to show cause why his license to practice in California should not be revoked.

According to reports, Suzuno Eda, licensed midwife at Fresno, was on November 14, 1930, found not guilty (following a jury trial) of the charge of murder growing out of the death of Jeannette Louie. (Previous entry, July 1930.)

"For preceding his name with 'Dr.' when he had no license to do so, Roland H. Freese, listed as a chiropractor at 112 North Market Street, Inglewood, was given a suspended sentence of sixty days in the county jail when he appeared in the Inglewood Police Court last Saturday. . . . The complaint was signed by Albert Carter, special agent of the State Medical Board" (Inglewood *Californian,* November 10, 1930.)

According to reports, W. T. Harbottle was adjudged guilty of violation of the Medical Practice Act at Long Beach and on December 1 was sentenced to pay a fine of $300 or serve sixty days in jail, sentence being suspended for one year. It is alleged Harbottle operated the "Harbottle Magnetic Healing Institute," American Avenue, Long Beach, giving manipulative treatments described by his patients as osteopathic massage or chiropractic treatments, and that since January 1, 1930, after deducting all expenses, he has collected from his patients the sum of $33,414.

According to reports, Christi Jerian of Long Beach on December 1 was sentenced to pay a fine of $300 or serve sixty days in jail on a charge of violation of the Medical Practice Act, sentence being suspended for one year.

According to reports, Mrs. Versa I. McKinney of Los Angeles was on November 18, 1930, found guilty of an alleged illegal operation. Motion was made for a new trial, and she is now reported to be serving one year in the county jail on a charge of having agreed to perform an abortion.

According to a recent report, an individual using the familiar eyesight swindler alias "Dr. Miles," was alleged to have imposed upon Mrs. R. L. Banke, Pleasanton, California.

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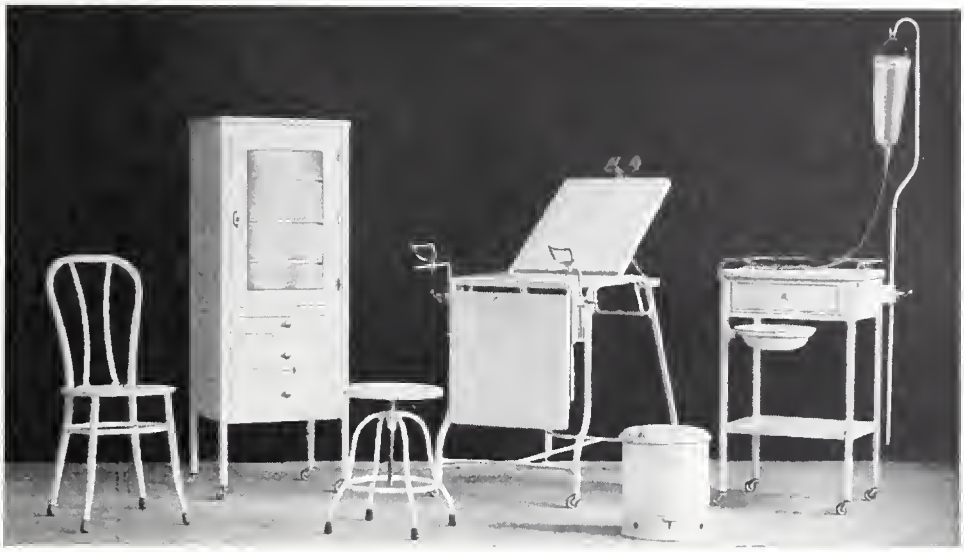

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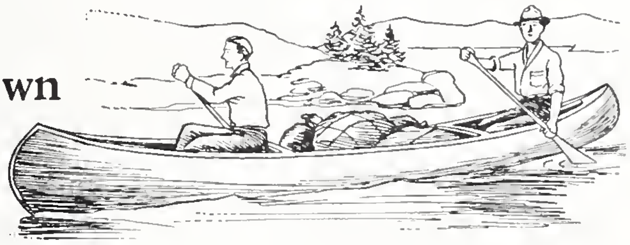

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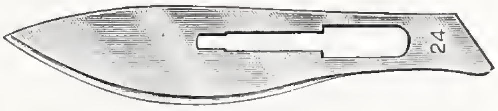

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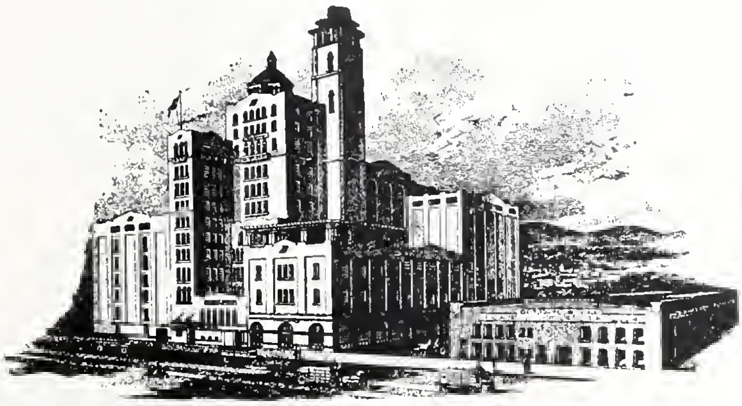

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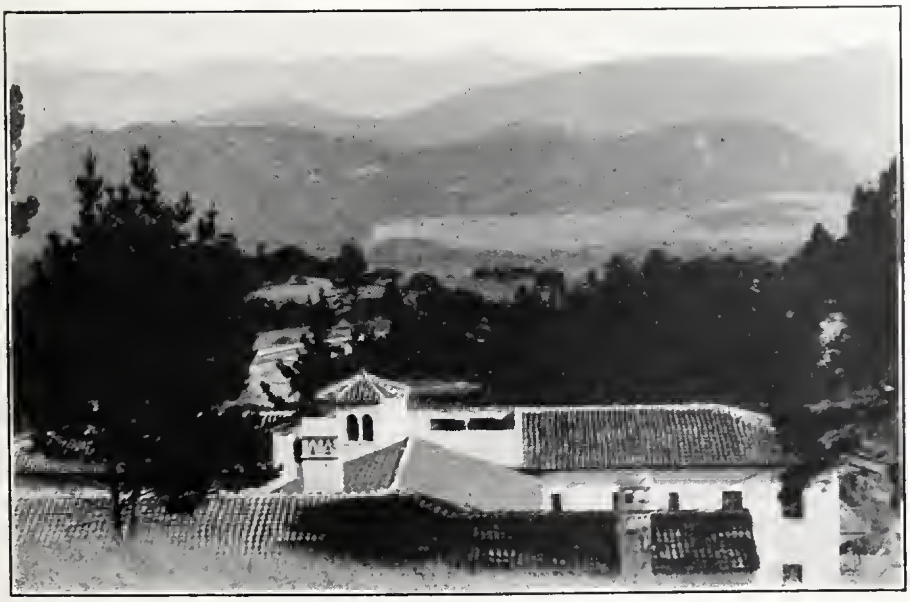

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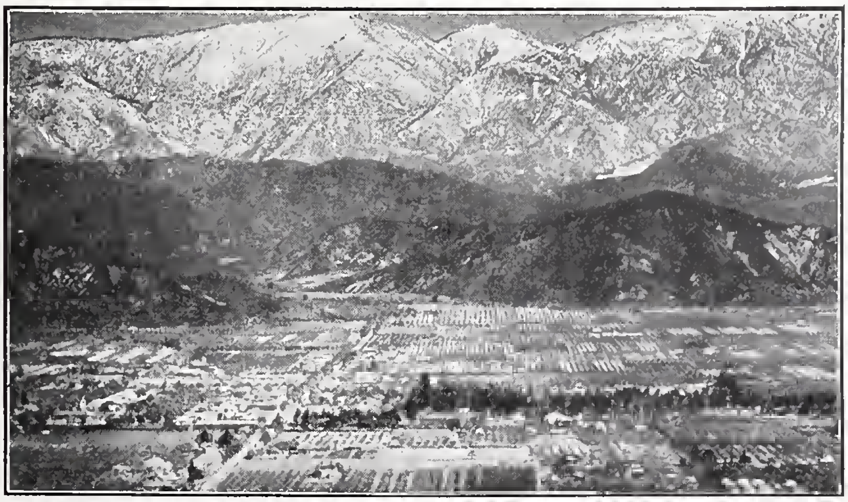

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(Continued from Page 30)

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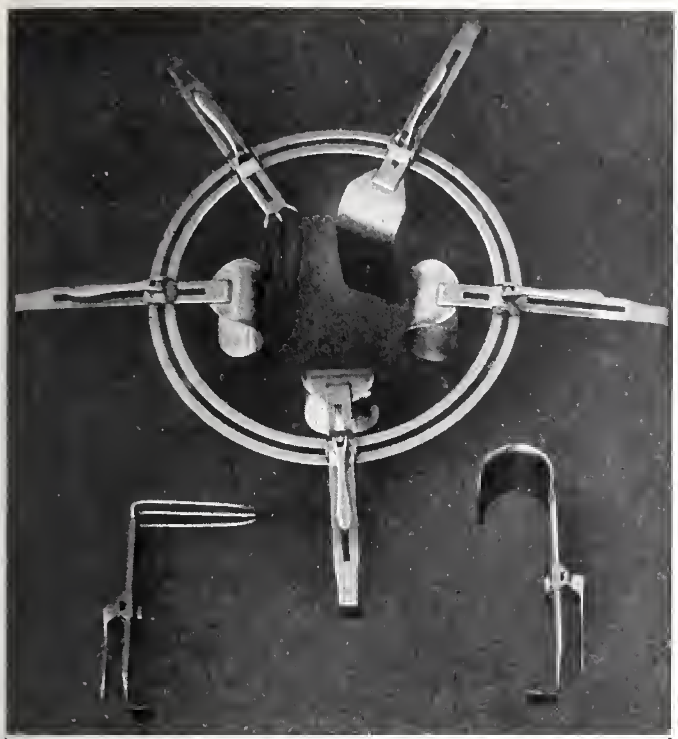

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"Only those clinical laboratories in which the space, equipment, finances, management, personnel and records are such as will insure honest, efficient and accurate work may expect to be listed as approved."

"The housing and equipment should be sufficient to permit all essential technical procedures to be properly carried out."

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"The director of an approved clinical laboratory should be a graduate of an acceptable college or university of recognized standing, indicating proper educational attainments. He shall have specialized in clinical pathology, bacteriology, pathology, chemistry or other allied subjects, for at least three years. He must be a man of good standing in his profession."

"The director shall be on full time, or have definite hours of attendance, devoting the major part of his time to the supervision of the laboratory work."

"The director may make diagnoses only when he is a licensed graduate of medicine, has specialized in clinical pathology for at least three years, is reasonably familiar with the manifestation of disease in the patient, and knows laboratory work sufficiently well to direct and supervise reports."

"The director may have assistants, responsible to him. All their reports. bacteriologic, hematologic, biochemical, serologic and pathologic should be made to the director."

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"Indexed records of all examinations should be kept. Every specimen submitted to the laboratory should have appended pertinent clinical data."

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"Publicity of an approved laboratory should be directed only to physicians either through bulletins or through recognized technical journals, and should be limited to statements of fact, as the name, address, telephone number, names and titles of the director, and other responsible personnel, fields of work covered, office hours, directions for sending specimens, etc., and should not contain misleading statements. Only the names of those rendering regular service to the laboratory should appear on letterheads or other form of publicity."

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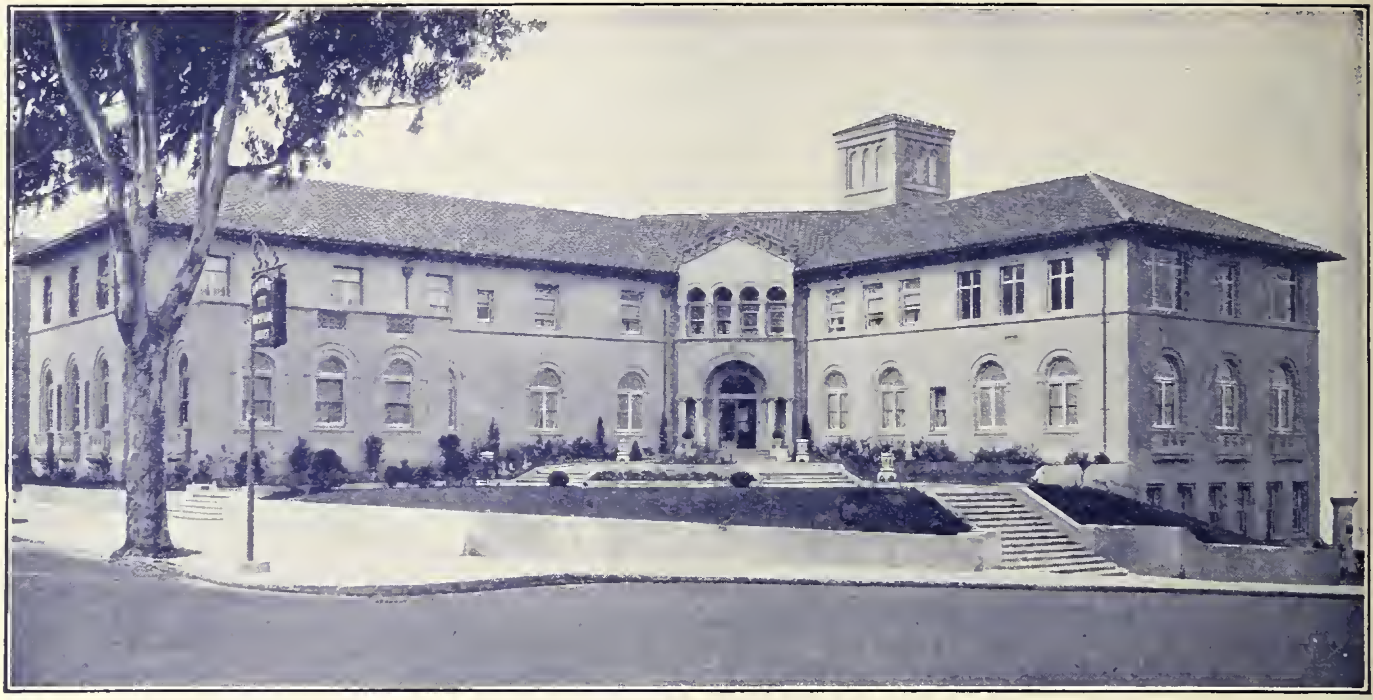

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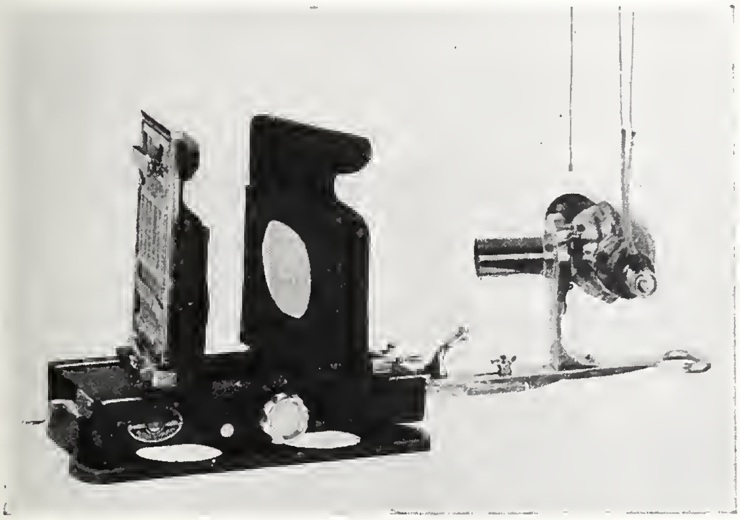

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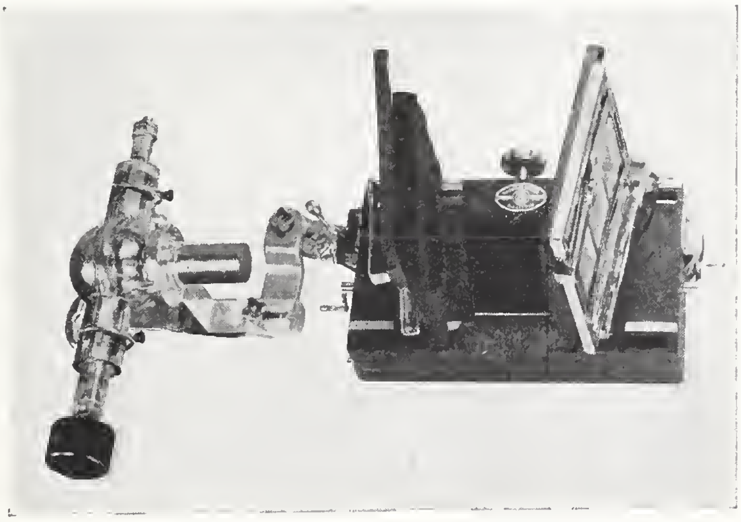

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*Each year the California Medical Association offers two prizes of One Hundred and Fifty Dollars each, with certificates of award, for the two best papers on clinical and research subjects. Full information concerning the conditions laid down in these competitions may be had by addressing the Association Secretary.

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Place of next meeting, Salt Lake City, September 9-11, 1931.

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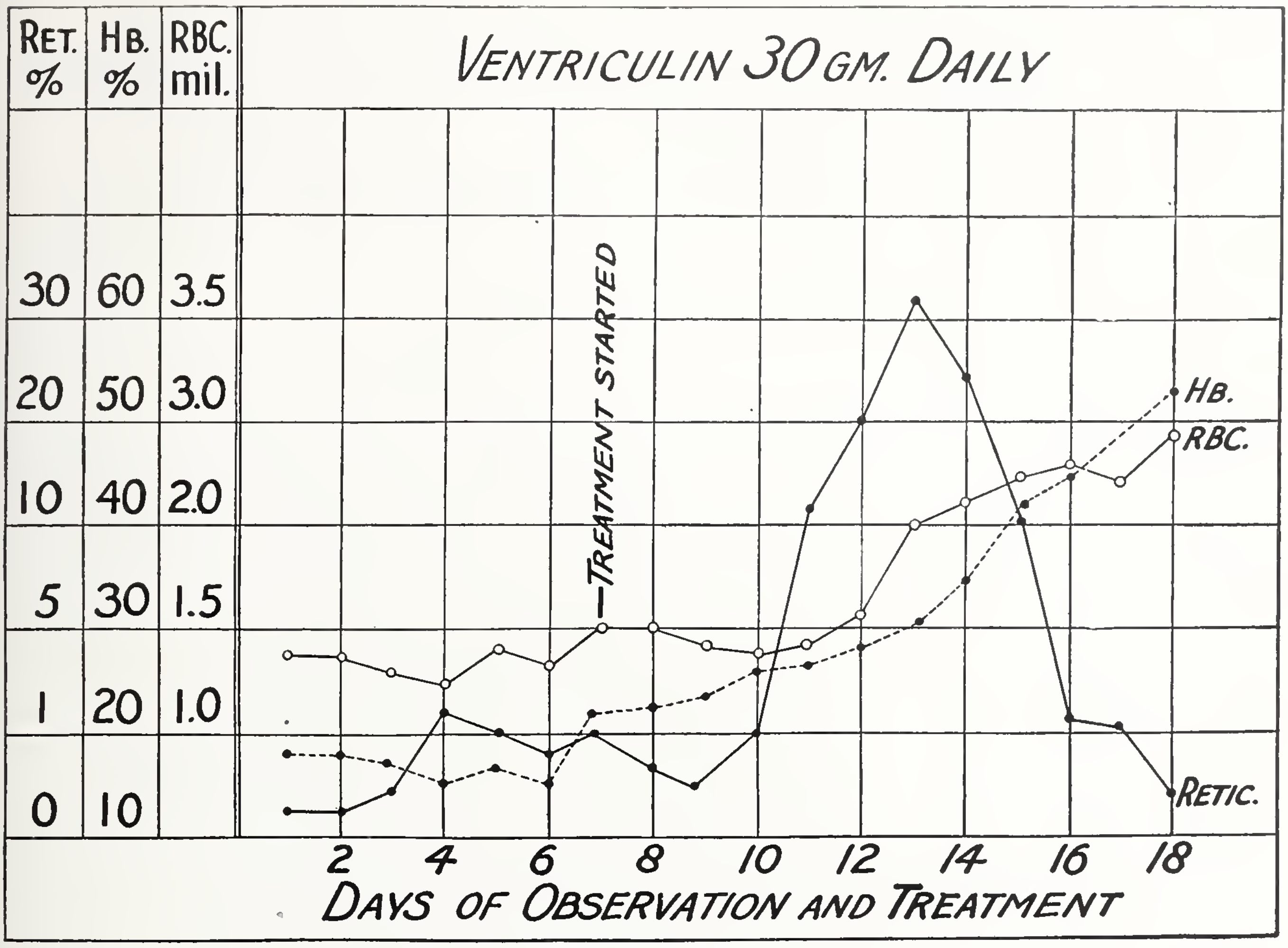

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DIAGNOSIS. Pernicious anemia.

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Clinical Allergy, Particularly Asthma and Hay Fever. Mechanism and Treatment. By Francis M. Rackemann, M. D., Physician to the Massachusetts General Hospital, Instructor in Medicine, Harvard Medical School, Boston, Mass. Cloth. Pp. 617. Price, $10.50. New York: The Macmillan Company, 1931.

Cinchona Tercentenary Celebration and Exhibition at the Wellcome Historical Medical Museum, 54 Wigmore Street, London, W. I. Cloth. Pp. 115. London: The Wellcome Foundation, Ltd., 1930.

Annual Report of the Health Department of the City of Los Angeles. 1929-1930. Paper. Pp. 90. Bureau of Printing, City of Los Angeles.

United States Naval Medical Bulletin. Published quarterly for the Information of the Medical Department of the Navy. Issued by the Bureau of Medicine and Surgery, Navy Department, Division of Planning and Publication, Captain W. Chambers, Medical Corps, U. S. Navy, in charge. Edited by Lieutenant Commander Robert P. Parsons, Medical Corps, U. S. Navy. Paper. Pp. 189. Price 25 cents. Washington: Government Printing Office, 1930.

Mortality Statistics, 1928. Twenty-ninth Annual Report. U. S. Department of Commerce, R. P. Lamont, secretary. Bureau of the Census, W. M. Steuart, director. Cloth. Pp. 444. Price, $2.00. Washington: Government Printing Office, 1930.

Deformitaten und Kosmetische Operationen der Weiblichen Brust. Von Dr. Hermann Biesenberger, Oberarzt des Roten-Kreuz-Spitales Rudolfinerhaus in Wien. Cloth. Pp. 209, with 161 illustrations. Wien: Verlag von Wilhelm Maudrich, 1931.

Through the Alimentary Canal with Gun and Camera. A Fascinating Trip to the Interior, personally conducted by George S. Chappell, author of the famous Traprock Triology, "The Cruise of the Kawa." With an introduction by Robert Benchley. Cloth. Pp. 251, fully illustrated by O. Soglow. Price, $2.00. New York: Frederick A. Stokes Company, 1930.

Certified Milk Conferences Held in 1930. Annual Conference American Association of Medical Milk Commissions, Inc., and Certified Milk Producers' Association of America, Inc., Detroit, Michigan, June 23-24, 1930. Annual Conference Metropolitan Certified Milk Producers, Inc., with the Certified Milk Producers' Association of America, Inc., New York, February 3, 1930. Cloth. Pp. 354.

Abdomino-Pelvic Diagnosis in Women. By Arthur John Walscheid, M. D., Director of Obstetrical and Gynecological Department of Broad Street Hospital; Director of Obstetrical and Gynecological Department of Pan-American Medical Center and Clinics, New York City. Cloth. Pp. 1000, with 397 illustrations, and one color plate. Price, $12.50. St. Louis: The C. V. Mosby Company, 1931.

The Pathology of Internal Diseases. By William Boyd, M. D., M. R. C. P., Ed., Dipl. Psych., F. R. S. C., Professor of Pathology in the University of Manitoba; Pathologist to the Winnipeg General Hospital, Winnipeg, Canada. Cloth. Pp. 888, illustrated with 298 engravings. Price, $10.00 net. Philadelphia: Lea & Febiger, 1931.

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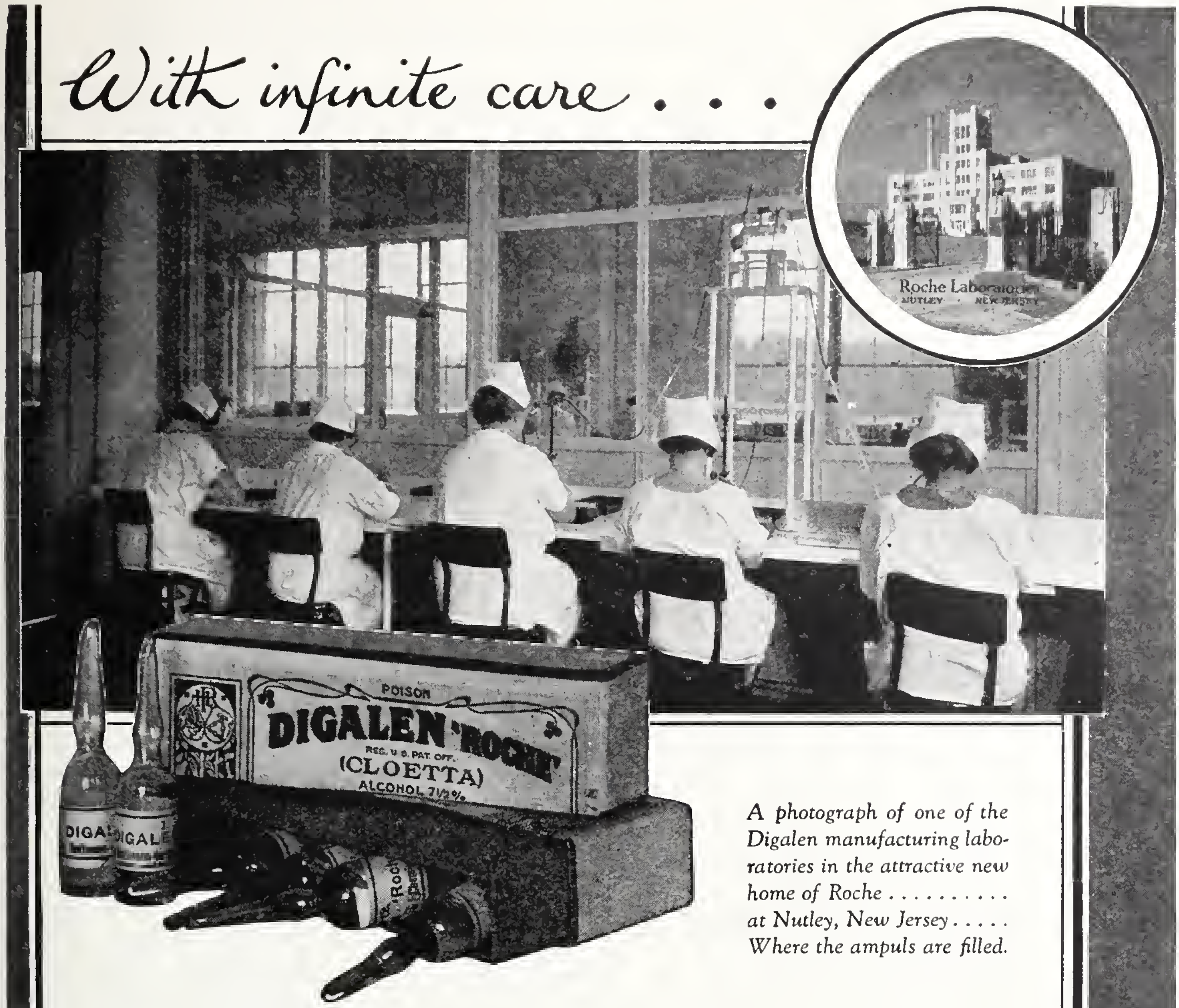

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Alimentary Anaphylaxis (Gastrointestinal Food Allergy). By Guy LaRoche, Charles Richet Fils and Francois Saint-Girons. Translated by Mildred P. Rowe and Albert H. Rowe. Pp. 139. Berkeley: University of California Press, 1930. Price, $2.00.

In 1919, LaRoche, Richet (Fils) and Saint-Girons published a monograph, "L'Anaphylaxie Alimentaire." Prior to that time there were only a few clinical and experimental observations in the literature concerning the relationship between food idiosyncrasies and certain gastrointestinal symptoms. As pointed out by Rackemann, Sir William Osler in 1903 and 1904 described a group of patients with urticaria, angioneurotic edema and certain visceral symptoms. In 1914 Osler recognized the similarity between forms of sensitization, food, serum rashes and hay fever, and expressed the view that before long the "anaphylactic key" would unlock the mystery of these cases.

In view of the great progress in our knowledge of food allergy and the train of symptoms which it evokes, it is of great historical interest to have an English translation by Mildred P. Rowe and Albert H. Rowe of this classical monograph. The foreword by Doctor Richet, the son of the famous Richet who coined the word "anaphylaxis," correlates his work and that of his associates with the present-day developments in this subject. The book is brought up to date by footnotes, containing the most recent comment of the authors, prepared especially for this edition, and by Doctor Rowe's preface with its discussion of the contribution of allergists in this country to this difficult problem.

The book discusses all phases of gastrointestinal allergy: etiology, symptoms, pathology, diagnosis and treatment, and gives a very interesting series of illustrative cases which show fairly conclusively the spectacular results which may be achieved through a proper recognition of the causative foods producing the symptoms and their elimination. The book also gives a full bibliography of the contributions to this subject made by continental observers.

S. H. H.

Nervous Indigestion. By Walter C. Alvarez. Pp. 297. New York: Paul B. Hoeber, Inc., 1930.

I wondered while reading this book for what kind of an audience the author had intended it. It seemed too elementary for most medical readers, yet the chapters

(Continued on Page 20)

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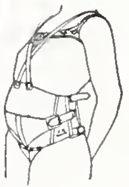

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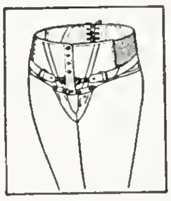

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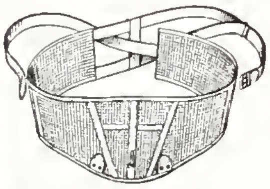

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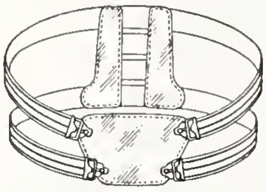

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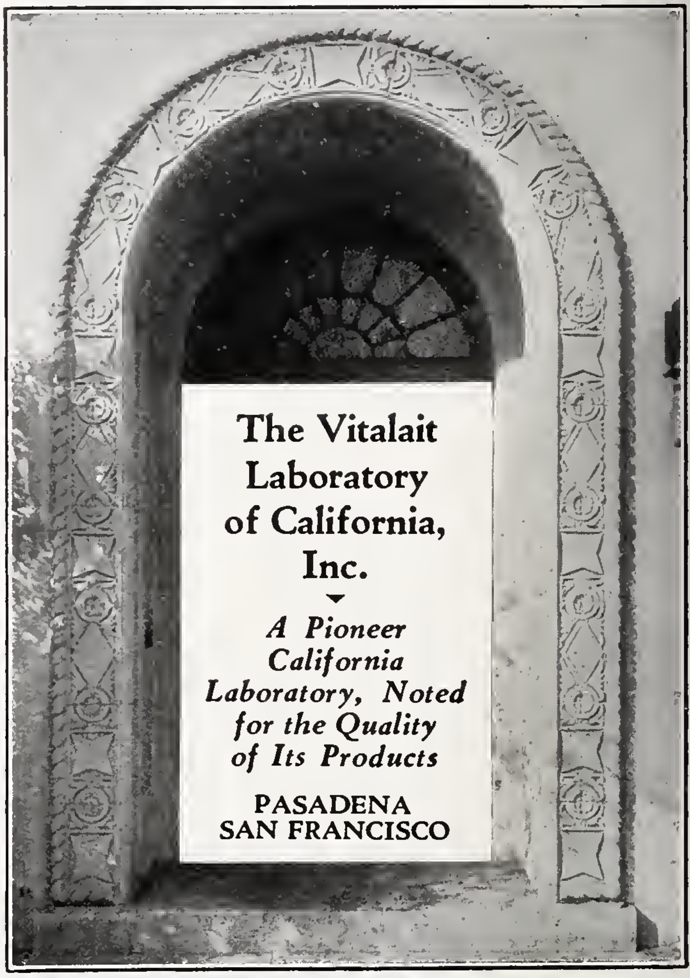

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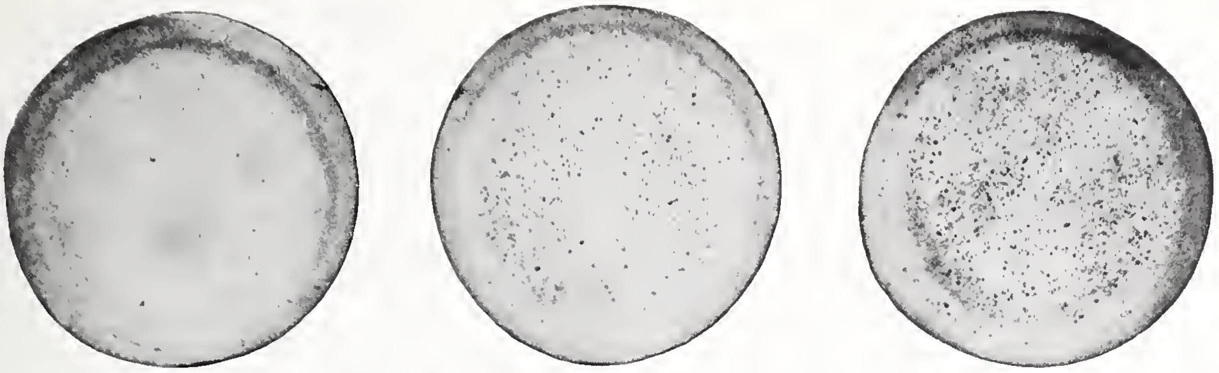

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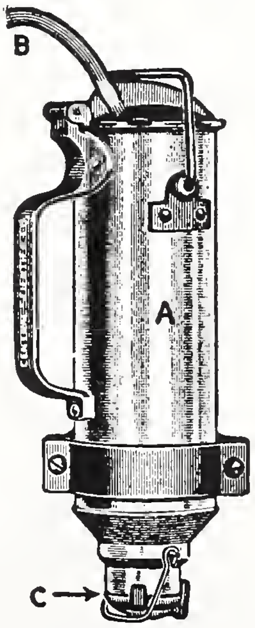

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BOOK REVIEWS

(Continued from Page 14)

upon the art of dealing with nervous patients are obviously for the doctor rather than for his clientele. The explanations of the motor processes of digestion are couched in such simple terms that they seem written primarily for the patient rather than for his adviser. Yet the author's accustomed facility and his sprightly anecdotal narration are so easy to read that in spite of the incongruity of the contents of this work the medical reader will be amused and instructed while his patients, once they have overcome the shock of this open exposition of their doctor's and their own frailties, may be helped to a better understanding.

Much of the book that might have been superfluous fifty years ago to the old family doctor may be taken well to heart by the modern laboratory and x-ray gastroenterologists; and all of it will be an excellent guide and vade mecum for younger craftsmen; internes, assistants and the more recent products of strictly hospital modern training. L. E.

Tropical Medicine in the United States. By Alfred C. Reed. Philadelphia: J. B. Lippincott Company, 1930.

This new addition to the textbooks on tropical medicine contains four hundred pages of readable and valuable material, particularly for the practitioner of medicine whether a resident of a seaport city or not. There are nine chapters, suitably classified, many diseases in which are amply illustrated and described in all essential details. Perhaps, of solid interest to the general practitioner who is coming more and more into contact with tropical medicine, is the excellent clinical description of a disease with its accompanying treatment. To the public health official, the book is decidedly of reference value since the preventive aspects and the epidemiology of many of these diseases are stressed. Moreover, the author very rightfully points out that in the United States several so-called tropical diseases are now endemic and even increasing to the extent of being declared epidemic. Finally, this book should prove its worth to the medical student struggling through a heavy curriculum and indeed, also to the traveler in the tropics. J. C. G.

American Medical Association. (Coöperative Committee on Fractures.) Illustrated primer on fractures, prepared by the coöperative committee on fractures, under auspices of section on surgery, general and abdominal and section on orthopedic surgery, in coöperation with department of scientific exhibit of the American Medical Association. Pp. 55. Illustrated. Chicago: American Medical Association, 1930.

This book is timely; it has a definite place in the library of student and general practitioner alike. The illustrations are excellent, the text is not too long and is to the point. It would seem to me that a book, however primary, that deals with the treatment of fractures, should give some space to the action of muscles in the production and maintenance of deformity. This is not even touched upon in this book. Otherwise, it serves its function as a primer very properly. R. L. D.

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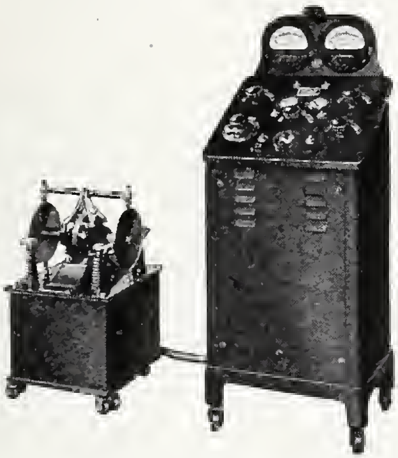

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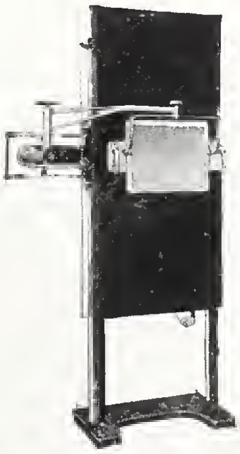

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(Abstracts from reports of Council on Pharmacy and Chemistry, American Medical Association)

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Gane & Ingram, Inc. — Ephedrin Hydrochlorid; Ephedrin Sulphate.

Lederle Laboratories, Inc.—Diphtheria Toxoid, ten immunization treatment packages; Diphtheria Toxoid, fifteen immunization treatment packages; Tetanus-Gas Gangrene Antitoxin (Lederle); Gas Gangrene Antitoxin (Polyvalent) Refined and Concentrated without Tetanus Antitoxin (Lederle).

Mead Johnson & Co.—Mead's 10 D Cod-Liver Oil with Viosterol.

National Drug Co. — Diphtheria Toxin-Antitoxin Mixture (Diphtheria Prophylactic) one hundred and fifty 1 cc. vial packages; Diphtheria Toxoid, five (three dose) immunization treatment packages; Diphtheria Toxoid, fifty (three dose) immunization treatment packages; Diphtheria Toxoid, one (two dose) immunization treatment packages; Diphtheria Toxoid, five (two dose) immunization treatment packages; Diphtheria Toxoid, ten (two dose) immunization treatment packages; Diphtheria Toxoid, fifteen (two dose) immunization treatment packages; Diphtheria Toxoid, fifteen (two dose) immunization treatment packages; Diphtheria Toxoid, fifty (two dose) immunization treatment packages; Schick Test; Schick Test Control; Tuberculin Old (Human).

Parke, Davis & Co.—Parke, Davis & Co.'s Viosterol in Oil 250 D; Parke-Davis Cod-Liver Oil with Viosterol 10 D.

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Antipneumococcic Serum, Type 1.—An antipneumococcus serum (New and Nonofficial Remedies, 1930, p. 351) marketed in packages of one 50 cubic centimeter double-ended vial with apparatus for intravenous injection. The National Drug Co., Philadelphia.

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(Continued on Page 28)

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TRUTH ABOUT MEDICINES

(Continued from Page 26)

peutic use against erysipelas it may be of value when administered in adequate doses in the early stages of the disease. Though there is no evidence for the value of nonspecific antistreptococcus serums, there appears to be some evidence for the value of a serum representing the antigenic and antibacterial properties of *Streptococcus erysipelatis.*

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Richards Psyllium Seed. — A brand of psyllium seed—N. N. R. (New and Nonofficial Remedies, 1930, p. 311). Richards Pharmacal Co., Inc., New York.

Ointment Scarlet Red Biebrich Eight Per Cent.—An ointment composed of scarlet red medicinal Biebrich—N. N. R. (New and Nonofficial Remedies, 1930, p. 148) eight per cent in a base consisting of stearin, wool fat, and petrolatum. The National Drug Co., Philadelphia.

Typhoid-Paratyphoid A Vaccine. — This product (New and Nonofficial Remedies, 1930, p. 373) is also marketed in packages of three one cubic centimeter vials. The National Drug Co., Philadelphia.—*Journal of the American Medical Association,* December 6, 1930, p. 1745.

Antirabic Vaccine, Semple Method.—An antirabic vaccine (New and Nonofficial Remedies, 1930, p. 352) prepared according to the general method of David Semple (phenol killed). It is marketed in packages of fourteen vials, each containing two cubic centimeters; in packages of fourteen vials, each containing two cubic centimeters, and a syringe; in packages of fourteen syringes, each containing two cubic centimeters. Medical Arts Laboratory, Inc., Oklahoma City, Oklahoma.

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(Continued on Page 35)

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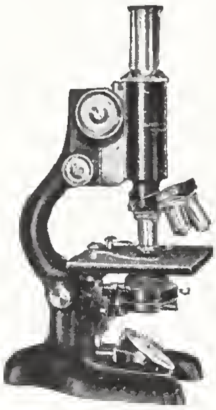

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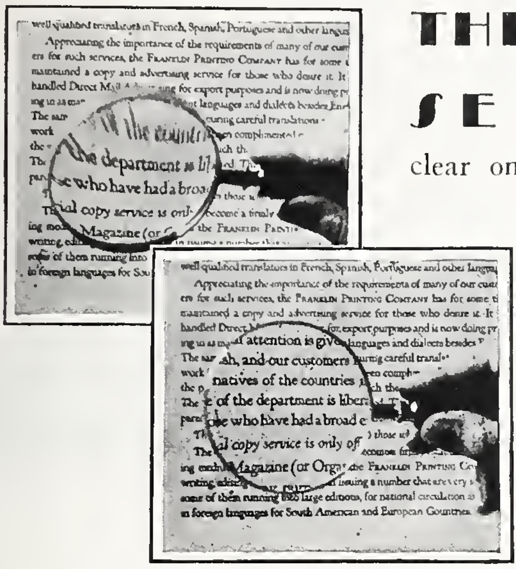

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MINIMUM REQUIREMENTS FOR ROENTGENOGRAPHY*

By H. J. Ullmann, M. D.
Santa Barbara

Discussion *by John M. Rehfisch, M. D., San Francisco; R. R. Newell, M. D., San Francisco; A. U. Desjardins, M. D., Rochester, Minnesota.*

THE physician who has just installed a roentgen equipment or the roentgen diagnostician who is suddenly faced with the problem of roentgenotherapy for the first time is usually appalled at the mass of data given in textbooks on therapy and with which he assumes he must be familiar in order to apply a proper dose of the roentgen ray.

On the other hand, he may believe that all necessary requirements are met if he makes a rough test to ascertain if the "tension" is equal to a "six-inch gap" and then, using the arithmetical formula, confidently gives an epilating dose for tinia tonsurans. On the law of chance and probability one of three things may happen. The hair may fall out, regrow luxuriantly, and the child be cured of its tinia. The hair may not fall out and the child retain the tinia. Or the hair may fall out with resultant cure but without regrowth, the head remaining as bald as the proverbial egg. With the dose estimated and controlled as above, the chances of each of these results occurring are about equal.

There is nothing presented in this paper that is not already known to the experienced radiologist, but it is hoped that the information given will be of use to the inexperienced and a deterrent to those who believe that an exposure of so many minutes constitutes a dose. Nothing will be said of the different methods of estimating dosage. These can be found by those interested in various texts. The recommendations must, in a short paper, be given didactically and are believed by the author to be the minimum requirements. As one becomes experienced one will necessarily use variants according to the nature of the case under treatment and will want to use accurate measuring devices and become familiar with their application. These are not necessary for routine clinical work if one is willing to follow the recommended doses of those working with such instruments. I believe the following recommendations and data are the minimum, and one unfamiliar with them gives roentgen treatments at the peril of his patients and himself.

BASIC FACTORS

The Quality of the Radiation.—The quality of the radiation is a function of (depends on) the voltage and the voltage must be measured as such, not in inches gap. This was first demonstrated by me in 1921 [1] and again by Markley in 1926.[2] It is most conveniently measured by a sphere gap in routine practice. The quality is also determined by the presence or absence of a filter, its thickness, and the material of which it is made.

The Quantity of the Radiation.—The quantity of radiation is a function of (depends on) the voltage. Because the quantity varied with the square of the voltage when direct current was used in experimental work the error that such a law held true with rectified (rotating switch) current, has been printed in textbooks and more or less assumed in calculating dosage. This is not true. I have reported a series of tests [3] showing that, with the one apparatus tested, an error as high as 17.5 per cent in the calculated dose may occur. This error may vary higher or lower with different machines. It is recommended, therefore, that a single voltage be adopted for certain purposes and all tests and doses be based upon it.

Quantity is a function of the milliamperage. Two milliammeters in series should always be used in treatment work. Meters not infrequently develop errors and when two are used a difference in reading between the two immediately calls attention to the fact that one of the meters is in error and must be repaired.

Quantity varies inversely with the square of the distance from the focal spot on the target of the tube to the irradiated surface. If the spot is twice as far away the dose will only be one-fourth if all the other factors are the same.

Quantity varies with the port or size of the irradiated area, due to backscattering of rays from the tissue beneath. The following table was made with a standardized instrument at 90 K. V. P. without filter to determine this variation. As it was found that with an area of 2.5 centimeters (one inch) square or less, backscattering could be ignored, the dose for this area was taken as 100. As the dose increases with the size of the port, the number of each port indicates to what per cent the dose or time for 2.5 centimeters^2 must be reduced to produce equivalent skin effects for each larger port.

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* From the department of radiology and cancer research, Santa Barbara Cottage Hospital, Santa Barbara.

* Read before the Radiology Section of the California Medical Association at the fifty-ninth annual session at Del Monte, April 28 to May 1, 1930.

Table 1.—*At Ninety K. V. P.*

Port in square centimeter	Time for equivalent dose
4.5	100
16.0	91
28.0	89
64.0	86
202.0	83

In these measurements 90 K. V. P. was used for the reason that I have used it as a standard in superficial therapy for the last nine years. This voltage when tested against blunt points at sea level will give a sparkover from 5¾ to 6⅛ inches, depending upon atmospheric conditions, and when substituted for the six-inch gap in the arithmetical formula advised by MacKee in the first edition of his book "X-Rays and Radium in the Treatment of Diseases of the Skin," worked out as exactly as could be determined by Sabouraud and Noire pastiles and the epilation of scalp hair.

Quantity is a function of the time. This is obvious. If the exposure is twice as long, twice the dose will be given if all the other factors are the same. Quantity is often spoken of as milliampere minutes (the number of milliamperes or rate of radiation output times the minutes during which the dose is applied). Five milliamperes for three minutes (fifteen milliampere minutes) equals three milliamperes for five minutes (fifteen milliampere minutes). It must not be assumed, however, that this holds true for large variations. The effect of one milliampere for 100 minutes is not the same as 100 milliamperes for one minute. When the ratio is greater than six to one the effect is greater for the higher milliamperage. In all routine practice, however, milliampere minutes may be used to express the quantity so far as output and time is concerned.

Determination of Skin Unit for Unfiltered Radiation.—The physician, knowing the above, and with his machine installed, must now determine his skin unit for unfiltered or superficial therapy. It is recommended that the machine be calibrated by the physician for 90 K. V. P., with a sphere gap (the best method, as it is necessary to recheck at intervals) or by the agency installing it. He should then decide at what milliamperage he will operate. The author uses 5 for all his work (except at 200 K. V. P., where the output is 30), as it is convenient to calculate from and cuts the operating time to a minimum. The tube must then be calibrated against human skin. The following method is from MacKee. The factors and time is that recommended by the writer. Assume definite constants, kilovoltage, distance, and milliamperage. Shield an area 2.5 centimeters (one inch) square on the flexor surface of the forearm or the inner aspect of the thigh with lead foil or lead rubber. A young adult or an adolescent with fairly white skin is preferable. For medico-legal reasons the operator should use his own forearm. If the K. V. P. is 90, the milliamperage 5, and the focal skin distance 30 centimeters, expose for three minutes and wait two weeks for a possible erythema. If none appears increase the exposure 20 per cent. If a definite erythema occurs it is wise to repeat with 20 per cent less. When the dose is determined that will produce a faint but definite erythema, it may be taken as the arbitrary or skin unit. Three-fourths to one of these units is the amount required to produce epilation on the average scalp in tinea tonsurans. One-fourth of this dose given once a week is a common treatment for acne. Five to ten times this dose at one time or fractionated over three to six days is the dose for surface epitheliomata. Obviously it is preferable, for the sake of safety, to standardize on fairly sensitive normal skin. Children are too sensitive for this purpose and this sensitiveness must be borne in mind when treating a child, and the usual dose reduced. Unfortunately the exact amount of reduction is unknown, but it should not be less than 25 per cent in young children. For areas larger than one inch square the dose must be reduced according to Table 1. For instance, if the unit on one square inch was obtained at three minutes and fifteen seconds one-fourth unit given over the entire side of the face would be only 83 per cent of this one-fourth, or approximately forty seconds. As the glass of x-ray tubes vary in thickness the standardization on skin must be repeated whenever the tube is changed.

Determination of Skin Unit for Filtered Radiation.—The determination of the unit skin dose with filtered radiation is not as simple. The skin will tolerate an overdose of filtered radiation that would result in irreparable damage if unfiltered. At the same time injuries from filtered radiation extend deeper beneath the skin and are slower in appearing. In order to obtain a working basis a series of measurements were made at different voltages, filters, and ports.

Table 2.—*F. S. D. Thirty Centimeters*

K. V. P.	millimeters of aluminium	in square centimeters	r per minute at 5 milliamperes
100	1	202	63
100	1	64	57
120	1	202	92
120	1	64	84
120	3	202	50
120	3	64	46
120	4	202	40
120	4	64	37
125	3	202	54
125	3	64	48
125	4	202	45
125	4	64	40

If 400 r (with backscattering) is taken as the minimum erythema dose for low voltage and light filtration, it is seen from the table that with 125 K. V. P., 5 milliamperes, 30 centimeters F. S. D., 4 millimeters of aluminium as filter, and a 64 square centimeter port, such a dose would be given in ten minutes. This would produce a light erythema in some individuals but not in others, and in most cases can be increased 25 per cent (500 r) or more with safety. A dose of more than 500 r of such wavelengths should not be given by an inexperienced physician, although usually safe for the experienced radiologist. It is always dangerous to give more than 400 r to an area larger than 150 square centimeters and rarely necessary. For practical purposes, with a new installation of the mechanical rectifier type, this table may be assumed to be reasonably correct until the operator can test the skin reactions against the dose. When this is done for any setting, the value obtained may be substituted for that in the table at the voltage and filter used for the clinical observation and a table calculated for the equipment, using the new value as the base and the table for the per cent variation at the other ports, voltages, and filters. It is believed that this method is accurate enough within its range for clinical purposes. The proper dose for other distances is easily obtained from the table and the inverse square law.

For high voltage, heavily filtered radiation, the factors involved are the same except that a larger dose in r's is required to produce a skin reaction and the depth dose becomes of prime importance. With this, as with superficial therapy, it is not necessary to test the quantity of radiation with the ionization chamber. It is absolutely necessary, however, to have a sphere gap as part of the installation. Fortunately Packard[4] has found that the dose of roentgen rays necessary to kill the eggs of the fruitfly (Drosophila) is that required to produce a light erythema on a large proportion of individuals, and full directions for standardizing dosage by this method have been given by Wood.[5] The number of r's represented by this dose is about 800, including backscattering, and about 500 measured in air. I have, for convenience, called such an amount a 100 per cent dose and found that with my machine it will be obtained at 200 K. V. P., 50 centimeters F. S. D., 0.5 millimeters of Cu and 1 millimeter aluminium filter and a 24 by 24 centimeter port with 300 milliampere minutes. A reaction severe enough to produce blistering is not usual under 130 to 140 per cent of this amount. In dividing the dose, I found it safe to assume that there is a loss in effect of 7 per cent per day, but it must be understood that the accumulation is not allowed to go above this 100 per cent.

As with superficial therapy, the dose recommended as a standard may be exceeded safely in many instances by an experienced radiologist, and is given solely as a safe starting point for the beginner.

Determination of Depth Dosage.—The technique of cross-firing and determining the depth dose can be obtained from standard textbooks and cannot be discussed here, and the necessity of taking the order in which ports are used in cross-firing into consideration when formulating a course of treatments has been shown in a recent article.[6]

Charting Courses of Treatment for Deep Therapy.—The laying out of a course of treatment and calculation of dosage for so-called deep therapy is much more complicated than for the superficial. A physician, before entering the practice of short-wave therapy, must study the latest texts and become familiar with all the factors involved. He should also visit radiological clinics just as he would attend surgical clinics if he were taking up surgery for the first time, for he who operates the modern high power installations is assuming as much responsibility as though he were performing major operations. The high road to radiology is a part of the medical highway, and while there are many rough detours and hard climbs there are no short cuts.

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DISCUSSION

John M. Rehfisch, M. D. (450 Sutter Street, San Francisco).—Doctor Ullmann's article is very interesting. It is a comfort to find a roentgen-therapist bold enough to relegate the impressive measuring devices to the group of nonessential instruments. After ten years of working with dosimeters, ionometers and iontoquantimeters of many kinds, I am ready to fall in behind Doctor Ullmann. Indeed, I am not sure that I might not go further than he does and express a doubt as to whether the *general* use of these instruments is not more often a danger than a safeguard. They are so delicate and suffer from such mysterious and vexatious ailments at crucial moments that they are likely to be quite a menace in the hands of any man who has the common human failing of making a god out of a machine. So many people seem to throw all common sense and reason to the winds in the face of a reading from a so-called "instrument of precision." And yet one is forced to admit that it would be a sore deprivation in one's own laboratory to be without some kind of a measuring instrument—even if one is suspicious of every measurement it makes.

Doctor Ullmann's observation that roentgen ray output varies with different tubes, if no filter is used, is of course quite true. It is also, however, worth mentioning that roentgen ray output is for practical purposes independent of tubes when heavy filters are used, provided the focal spot is within normal limits of size. I am speaking, of course, of new tubes with unpitted targets.

Another of Doctor Ullmann's remarks which seems—to me at least—to be worth heavy underlining is that the skin will stand an overdose of filtered radiation, when a comparable dose would do irreparable damage with no filter in place. The enormous factor of safety that a filter gives us is perhaps not so widely known as it should be. I am beginning to doubt whether we should *ever* use the unfiltered ray except when we deliberately go out after caustic effects in small areas.

I should also like to stress the fact that roentgen therapy is a biophysical job, that anyone of average intelligence can learn the essential physics of it in a very short time, but that when all that knowledge is added to him he will feel more and more impressed and depressed with the magnitude of the biological factors with which he has to deal. The more patients that he treats the more embarrassed he will be by our almost unqualified ignorance of most of the fundamental laws of biological response to radiation. It is to men like Ewing (if there are any like him) that we look for some kind of a comprehensive synthesis of radiobiological data.

⁂

R. R. Newell, M. D. (Stanford University Hospital, San Francisco).—To teach physicians the safe route in roentgenotherapy in one lesson is probably an ambition impossible of attainment. Doctor Ullmann has, however, pointed to the major dangers and ways to avoid them.

Time and distance I can measure surely, but I distrust all the other instruments, even the sphere gap. However, if they all hang together, if everything is running today just as it did yesterday, then confidence is a good deal restored. One instrument can hardly go wrong without getting out of line with the others. But *anything abnormal* in the operation of the machine must be solved before continuing treatment.

I try also to keep a healthy distrust of myself. Errors of memory and mistakes in mental arithmetic are productive of more "incidents" in roentgenotherapy than are lying instruments.

I would urge that the physician use always the same setting and vary his dosage by changing only time and distance. Two, or at most three, qualities are quite sufficient. Personally I would be content with only two filters, say one millimeter aluminum and one-half millimeter copper plus one millimeter aluminum. One who treats one disease with one millimeter aluminum and other with two millimeters aluminum is, in my opinion, merely making it difficult for himself to learn by clinical experience.

I would not urge on anyone such a repair risk as an iontoquantimeter or the like. Nevertheless, I do use an ionization instrument myself, for the advantage of one more check, and also because doses recorded in ionization units do presumably mean the same thing in Paris or Vienna as in San Francisco.

Doctor Ullmann has written the difference between large areas treated and small ones—physically measured. I would urge that the clinical difference is even greater. The application of 800 r might raise blisters on a large area, yet three times that dose can be given safely to an area five millimeters in diameter.

There is one variable that we have not learned to measure—the patient. Idiosyncrasy does exist, but the doses indicated by Doctor Ullmann will not cause patients to sicken and die, nor to break down and ulcerate. Idiosyncrasy has led me to disaster only where heavy dosage has been repeated several times. These were late ulcerations.

Doctor Ullmann's figure, seven per cent per day recovery, may be right for skin epithelium. It is the figure I use in my own calculations. But much more lasting changes occur in subcutaneous tissue after heavy roentgen radiation. The art suffers sadly from lack of knowledge of the fundamental biologic action of roentgen ray, and the differences in response of different tissues.

⁂

A. U. Desjardins, M. D. (The Mayo Clinic, Rochester, Minnesota).—The requirements specified by Doctor Ullmann are entirely sound and one can hardly take exception to them. For the benefit of general practitioners who may read these requirements I should like to emphasize a few points. I should like to take exception first to the tendency of physicians as well as radiologists to use certain words which are misleading and which have little or no meaning. I refer for instance to the expression "deep" or "intensive" roentgen-ray treatment. These expressions have very little meaning unless they are accompanied by the electrical and other technical specifications which would make them intelligible. Consequently it would be more rational for the physician or surgeon referring a patient to the radiologist simply to say "roentgen treatment" and leave it to the radiologist to determine what is best under the circumstances; because, if the radiologist is worthy of his hire, he is in conscience bound as a physician to do this. It is inconceivable that physicians who know little or nothing about radiotherapy should venture to dictate the details of such treatment.

Another point relates to roentgen ray apparatus and roentgen ray output. The importance of keeping roentgen ray apparatus and all the electrical connections thoroughly clean is not realized as it should be. To make this importance clear I need only relate the experience of the United States Navy as told by Surgeon-General Stitt himself. For some time the surgeon-general had been receiving from medical officers stationed in different parts of the tropics reports that, owing to the high humidity and temperature, the roentgen ray output was much lower than would be expected under better conditions. The number of such complaints led Surgeon-General Stitt to refer this problem to the physical laboratory maintained by the navy at Brooklyn. The first step in investigating the problem was to build a chamber in which both the humidity and temperature could be absolutely controlled. Then a series of tests with different makes of roentgen ray apparatus were made at different temperatures and with different degrees of humidity; it was found that if the apparatus were kept absolutely clean the maximum variation in output was about five per cent and that any variation above this was due to dirt.

At almost every meeting of radiologists and in almost every journal devoted to this subject, we find communications on or hear discussions of the subject of dosage. In most cases the communications or discussions revolve around the measurement of the quantity of roentgen rays by various ionization methods. I should like to emphasize that the measurement of the quantity of roentgen rays does not constitute the measurement of dosage in any respect. A dose of roentgen rays involves several factors: (1) the quantity of roentgen rays; (2) the quality of roentgen rays; and (3) an unknown x constituted by the patient. Therefore, to speak of a dose of x-rays as 1400 r does not mean very much unless it is accompanied by a specification of the quality of the rays by the precise method by which the treatment was applied to the patient, and also the condition of the patient, and I am coming to think more and more that the knowledge of the patient and his condition is the most important of all the factors.

⁂

Doctor Ullmann (Closing).—I am glad that Doctor Rehfisch has given me an opportunity to enlarge on the possibility of error when using measuring instruments. The more accurate the instrument the greater the care required to obtain reasonably accurate results. As an example, I offer the following procedure which I followed in making the tables given in this and other papers. To determine the average output of my tube, which is the essential thing, not the output at any particular moment, I would operate under my standard conditions and take from five to ten consecutive readings. All these readings must be within five per cent of their average or the setup rechecked for error. The average of these readings was recorded as the output at that particular time. This was repeated the same day or a few days later again recorded, and both records averaged for the average output of the machine. This procedure was repeated at intervals of weeks to months until I was fairly sure that my equipment was delivering radiation constant enough for all practical purposes. This must be done every few months, as I have found the output to change appreciably, requiring careful inspection of equipment and readjustment of rectifier gaps, switch, connections, etc. The tables, therefore, are the results of many observations extending over more than two years. A single set of observations may be very misleading.

Doctor Rehfisch spoke of the independence of the output of different tubes when filters were used. It should be noted that the variation in output was only spoken of in connection with unfiltered radiation.

It is true that there is a greater factor of safety with filtered than with unfiltered radiation, but it must be remembered that when damage is done it will extend deeper beneath the skin with filtered than with unfiltered rays because of their increased penetration.

I cannot agree with Doctor Newell on the statement that the difference between the large and small areas is much greater clinically than when physically measured, so far as these tables and the size of the doses under consideration are concerned. One would rarely use an area greater than 24 by 24 centimeters (576 square centimeters) and 800 r *when measured to include backscattering* will produce a light erythema on such an area in less than 50 per cent of individuals and a tan in about 75 per cent. It is equivalent to the minimum erythema or unit dose of radium given in the published tables of the Standardization and Research Committee of the American Radium Society. I cannot conceive of such a dose resulting in blisters except under exceptionally abnormal conditions. It must be borne in mind, however, that I refer to 800 r measured on the skin so as to include backscattering, not simply the tube output measured in air. It has long been known that many times the erythema dose may be applied to very small area without permanent damage, but such dosage must be reserved for the experienced radiologist and is beyond the scope of this paper.

I have used seven per cent as the daily recovery because it is below the eight per cent recovery for skin determined by Stenstrom and well within safe limits, as shown by the clinical results of several experienced radiologists. This factor and the reasons for its use were discussed by me in "The Relation of Fractional to Depth Dose."

It is fortunate that Doctor Desjardins stressed the importance of the clinical side of radiation therapy. It is too true that the profession as a whole considers roentgen therapy purely a technical problem and not infrequently turn their patients over to a lay technician for treatment. Roentgen therapy is primarily a clinical problem, and this paper was intended to assist the clinician and the clinician only in his difficulties with the physical aspects of formulating a dose of the roentgen rays.

In closing I wish to repeat what I said at the beginning of the paper. The recommendations and data are only the minimum requirements and are reasonably safe. To be even moderately qualified as a radiation-therapist the physician must consider them as only a few bricks with which to begin building the foundation of his knowledge.

DIFFICULT FRACTURES*

REPORT OF CASES

By W. C. Adams, M. D.
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Discussion *by Charles A. Dukes, M. D., Oakland; Ernest W. Cleary, M. D., San Francisco; N. Austin Cary, M. D., Oakland.*

THIS paper is written, not with the thought of offering or suggesting anything new in the treatment of the commoner types of fractures. The common fractures are selected because in them lie the greatest number of problems and unsatisfactory results. In my opinion, there is no department of medicine and surgery more important than that of the treatment of fractures; the future happiness of vast numbers of injured depends on their proper treatment. Certainly major abdominal surgery, both in technique and after-care, does not overshadow the reduction of dislocations and the care of injuries to such bones as the femur and humerus. While the mortality is not so great, especially in those individuals past the age of fifty years, the expense to the injured, the loss of time from work and home, the pain endured, is greater in fractures than in the average abdominal operation. One writer (Speed) has mentioned the great ado (not unnecessarily) made over a case of acute appendicitis for which every facility of a modern hospital is thrown into action (many nurses, laboratory staff, the surgical department and special nurses for the patient) and for which the average hospital stay is but ten to twelve days. Is the equivalent amount of attention required for fracture patients who are so prone to a multitude of complications? In such important injuries as fractures the hospital selected should have ample equipment, such as proper fracture tables, portable x-rays, orthopedic room, beds with framework fitted, a selection of splints, and the technique of the operating room and staff should be above question if open operation be necessary. The surgeon in charge should make sufficiently frequent personal inspection of his patient after reduction has been started. Too often the adjustment of the apparatus is left to a student nurse or to an orderly who knows little of the pathology of the fracture or the physiology of the limb. Extension apparatus easily gets out of adjustment and the bone fragments out of alignment, so that frequent inspection by the expert is essential to the happiness and comfort of the patient and, most important, to the best functioning of the injured limb.

No set rules of treatment can be followed in any type of fracture, the proper procedure having to be worked out separately in each instance. My experience has been that the open method is the procedure of choice in fractures of the long bones when satisfactory reduction has not taken place after six to ten days of faithful application of some form of extension. In a well-appointed hospital, with a skilled surgeon, the operative method of reducing fractures is today performed with vastly increased safety. In this manner, as a rule perfect apposition of fragments is obtained and the limb restored to absolutely normal function when otherwise much unhappiness would have occurred from deformity and loss of function.

Time will not permit of any detailed discussion of types of apparatus for conservative treatment or the various methods of fixation in open operation.

The cases reported in this paper are those which were complicated with other fractures or which presented some difficult problem.

REPORT OF CASES

Case 1.—Lester P., age eight, fell from a tree. The distal ends of the left radius and ulna were forced through the volar surface of the wrist and projected into the dirt and grass. He was cared for at a county hospital for the following five days. X-rays taken there showed that the distal end of the radius had separated from the epiphysis, leaving this distal fragment in its normal articulation with the wrist.

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* Read before the Industrial Medicine and Surgery Section of the California Medical Association at the fifty-ninth annual session at Del Monte, April 28 to May 1, 1930.

When I first saw the boy he was delirious, had a temperature of 102 degrees, and the arm from the mid-brachial region to and including the hand was greatly swollen and reddened—almost gangrenous. The distal ends of the radius and ulna were blackened and still protruding about two inches outside of the skin. The fascia and ligaments of the wrist joint were necrotic and exceedingly foul-smelling. I removed him immediately to an Oakland hospital and operated at once, removing all the necrotic tissue possible. Incision in the immensely swollen hand elicited no blood whatsoever. Incisions were also made into the forearm for proper drainage. With much difficulty a dorsal board splint was applied with one end projecting beyond the finger tips. With adhesive tape fixed to the fingers a strong rubber-band extension was begun. Day and night special nurses were employed to keep the arm in a continuous warm compress of 1 to 5000 bichlorid solution in a saturated magnesium sulphate solution, and twice daily the arm was placed in a full-arm bath of the same solution. After a few days we were delighted to see bright blood appearing in the hand incisions, and with it the boy's general condition improved greatly and the swelling decreased. After twelve days he left the hospital and came to the office for daily dressings. About two weeks later a full one and one-half inches of the distal ends of the radius and ulna dropped off. The extension splint was watched now more carefully to prevent shortening until the tissues would clean up sufficiently for a possible bone graft. About ten weeks from date of accident, when the tissues were pretty well healed, there was noted a very marked rigidity in the entire arm. Imagine my surprise when x-ray showed that new bone had grown from the proximal fragment of the radius and attached itself to the epiphysis which had been left behind. The distal end of the remaining ulna had formed bony union with the radius. All went well until the end of the fourth month, when he fell while playing and fractured the new bone at its middle. With further immobilization the new bone repaired itself quite rapidly. The boy was discharged at the end of the sixth month with no shortening of the arm and a good-appearing hand, although there was marked limitation of motion in all of the fingers.

* * *

Case 2.—W. W., a carpenter's helper, age twenty-five. Fell from a second-story floor of a building under construction, rendering him unconscious. When I first saw him at a hospital the following day, he was still irrational and attempting to get out of bed. X-ray showed fracture of both femora through their middle thirds—that of the left being compound—with fully four inches of proximal displacement of both lower fragments. There was also fracture of the right patella and three fractures of the mandible with marked displacement of fragments. This last condition complicated matters greatly, for it was necessary to wire the upper and lower teeth firmly together, making it impossible to give a general anesthetic.

Thomas extension with adhesive traction was applied to both legs for a period of three weeks. Reduction not taking place, skeletal traction of ice tongs was attempted with no better results. His general condition was so serious at this time, it was necessary that something radical be done at once. The wires on his teeth were removed and, under general anesthesia, both femurs were plated with Lane plates. By this time much bony callus had formed which it was necessary to clear away. Sixteen days after the operation, sloughing of the callus in the left leg took place and after ample drainage quickly cleared up. X-rays showed no infection of the bone. Bony union took place promptly. When seen one year after injury there was but 22 degrees limitation of motion in the right knee and 12 degrees in the left. He was climbing about buildings at his usual occupation.

* * *

Case 3.—Douglas N., special delivery boy for a newspaper, age sixteen. While riding his bicycle he was struck by an automobile, causing an incomplete fracture of the left radius three inches from the wrist-joint, and a complete fracture of the radius and ulna of the same arm three inches below the elbow, with marked dorsal displacement of both. There was a comminuted fracture of the left femur in the upper third with the distal fragment displaced two inches proximally, medially, and dorsally. The radius and ulna were fixed with Lane plates, and after eleven days of a Thomas extension on the femur without results, a Dukes bone plate was used. This plate I found to be excellent, as it made a second operation to remove a Lane plate through the deep muscle tissues unnecessary. Bony union took place without incident and the Dukes plate was removed at the end of the seventh week. The plaster spica was removed at the end of the eighth week and the injured allowed to begin some weight bearing, aided with crutches. He was discharged to his usual duties in five and one-half months.

* * *

Case 4.—John H., machinist, age fifty-one. His jumper sleeve became caught in a large revolving shaft, winding his left arm about it. The entire arm was like a flail. The patient was in severe shock from being whirled about the shaft. He sustained a spiral fracture of the left humerus at the junction of the lower and middle thirds with marked displacement of the fragments; also extensive fractures of the left radius and ulna with wide separation of the fragments—that of the ulna was compound. Thomas extension was used on all of the fractures. The humerus not responding in fifteen days, a Lane plate was applied, the ulna was wired and the arm was returned to the Thomas extension to keep the numerous fragments of the radius in alignment. The extension was removed after nineteen days and a plaster dressing applied. Physiotherapy was started four weeks after operation. The contour of the arm was such that it was not evident that a fracture had taken place. Some limitation of flexion of the fingers remained, although the patient returned to his usual duties.

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Case 5.—Mrs. T., age fifty. Married. Housewife. Stepped from an automobile to a very deep gutter at night and, misjudging the depth of the gutter, severely wrenched her left leg. She was not seen by the writer until two days later. The lower one-third of the leg was markedly swollen and flail-like. X-ray showed a spiral fracture of the lower one-third of the left tibia with lateral and proximal displacement of the distal fragment; a fracture through the posterior one-third of the distal articular surface of the tibia which allowed marked anterior displacement of the anterior fragment on the astragalus. The distal end of the left fibula was fractured. Under gas anesthesia the writer was able, with very strong traction on the foot, to manipulate all of the fragments into a satisfactory reduction. The entire leg to the hip was placed in a plaster dressing for ten weeks. Weight bearing was permitted in twelve weeks. Patient recovered without any apparent limp. This was one of those cases in which one was able, in a comfortable manner, to get out of a difficult situation, extension splints or open methods not being necessary.

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Case 6.—Captain F. W., captain of a sailing vessel, age fifty. An extremely large man, weighing two hundred and fifty pounds, fell through a hatchway a distance of fifteen feet. When seen at the hospital he was in considerable shock and expectorating blood from the lungs. This case was interesting because of the multiplicity of fractures and complications. There was a fracture of the surgical neck of the right humerus with some separation of the fragments, fractures of the distal ends of both radii with typical Colles' displacement, and fracture of right third and fourth ribs with evidences of a punctured lung, namely, expectoration of blood, and air in the subcutaneous tissues. The right shoulder and wrist were placed in Thomas extension in extreme abduction until shock had subsided and danger of pneumonia had passed. He did develop an infection in the right lung, temperature ranging about 104 degrees. When this infection had subsided, the wrist fractures were reduced under gas anesthesia and put up in a plaster dressing and the shoulder was put up in a modified aeroplane plaster dressing in semi-abduction, x-rays showing that complete reduction of the humeral fracture was effected by this amount of abduction. The shoulder immobilization was removed in four weeks from the date of application, and physiotherapy was instituted. Complete recovery from the shoulder injury has occurred.

I like semi-abduction for these fractures of the neck of the humerus whenever possible because it is sufficient to allow prompt return of complete motion in the joint, and it is a very comfortable position. The shoulder held in extreme abduction is so often very painful from impingement of the greater tuberosity on the acromion process.

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Case 7.—Robert B., stevedore, age forty-eight. While at work on the deck of a ship, stepped into a loop of steel cable attached to a crane. The loop suddenly tightened, almost amputating the left leg at its lower third. Both the tibia and fibula and the extensor muscles and soft tissues were crushingly severed, fortunately leaving the posterior one-third of the leg intact, including the flexor tendons, vessels, and nerves. Of course, the wound was very dirty and contaminated. The injury was so severe and extensive that amputation was seriously considered. There was seen, however, to be considerable circulation remaining in the foot, so an effort was made to restore the leg. A Dukes bone plate was applied to the tibia and the soft tissues approximated as well as possible and the leg put up in plaster. As was expected, infection developed in the bones. The screws loosened because of suppuration, necessitating complete removal of the bone plate. One to five thousand bichlorid in saturated magnesium sulphate solution was used as irrigation and wet compresses. The plaster dressing was reinforced with a right-angled posterior steel splint and all the plaster cut away from the site of injury, making dressing more convenient. Extension by skeletal traction was not employed because of the close proximity to this profusely discharging wound. At ten weeks new bone was shown by x-rays. Seven months from date of injury the patient was walking about and placing full weight upon the leg. Small fragments of bone have discharged at various intervals. At the tenth month a small area of osteomyelitis deep in the shaft of the tibia developed which cleared up quickly after curetting. Recent x-rays show dense bony union.

SUMMARY

In conclusion, I feel that in these long bone fractures with displacement of fragments we frequently wait too long before open operation is done. We should use our best judgment and decide early the need for operation, for the earlier the decision the sooner and better the outcome.

Open operation offers the advantage of perfect reduction and alignment of fragments, better assurance of bony union, better and quicker joint and muscle function because of the markedly lessened time of immobilization, and a much lessened expense to both the insurance carrier and the injured.

1904 Franklin Street.

DISCUSSION

Charles A. Dukes, M. D. (426 Seventeenth Street, Oakland).—The paper by Dr. W. C. Adams incorporates not only the science of treatment of fractures, but also the art.

Certainly no first-class carpenter would go to a job without his own tools, but how freqcently we see going to the surgery men who have scheduled a certain class of bone work in a hospital where they are not acquainted with the operating staff, nor with the instruments which are available. The screws may not be the right length, the plates not adaptable and the drills that are ready not the proper size, and dies cannot be found. Too careful attention cannot be given to the instruments before doing fracture surgery.

I feel grateful to Doctor Adams for mentioning the Dukes external bone plate, as I have been quite successful in using it in the type of fracture with which he has dealt in his paper. The use of these plates, as in the use of any other method of fixation of fractured bones, must be adapted or suggested by the case in hand, as no one type of apparatus can be used in every type of fracture.

The doctor has also stressed the matter of nursing, which is so important in these severe traumatisms in which the injury to the soft part is great.

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Ernest W. Cleary, M. D. (490 Post Street, San Francisco).—Doctor Adams has presented a strong brief for early operative treatment of selected severe cases. I congratulate him heartily on the fine results shown by his x-rays and case records.

Surely, as he says, every hospital which attempts to give service for major fractures should have all the special equipment mentioned. The necessity for high standards of operating-room technique and nursing service, are, I think, paramount. Some of us have learned by bitter experience that fine equipment does not always mean safe technique in a hospital. Hospitals where mediocre standards prevail may get by with soft-tissue surgery and yet be dangerously inadequate for major bone and joint surgery.

Certainly time can be saved and often better function restored by early operation on a fracture. Recognizing this, even the most conservative of bone and joint surgeons take advantage of the increased safety afforded by better and more widely available hospital facilities. We are operating on fractures more often now than ever before, but the best surgical and hospital technique ever yet produced cannot make a contaminated field safe for a bone operation, and the results obtainable by the best conservative methods so nearly approximate the best results that may be obtained by operation that reckless operative surgery is inexcusable.

Overenthusiasm for operative treatment of fractures has its grave consequences. To be a safe bone and joint operator a surgeon must be wise and guarded in his selection of cases—meticulously careful in his own technique and exacting in his requirements for operating-room technique and pre- and postoperative care. Surgeons who are less discriminating will too often bring sorrow and disaster to their patients and themselves and discredit to the procedures which they undertake.

Always should the bone and joint surgeon beware of introducing into his fracture problem dangerous, perhaps uncontrollable, factors. I am convinced that the application of any sort of foreign body fixation to bone through a frankly contaminated or a doubtful operative field may, in many instances, introduce a factor of uncontrollable infection. Surgeons who are led to take such chances doubtless will have many brilliant results, but they will also have on their consciences some avoidable deaths and too many devastating infections.

Every type of fracture, which is ever amenable to open operative treatment, is also met with rather frequently, accompanied by complications, or in an environment such that operation is unwise or impracticable. No surgeon who is not a master of the best conservative methods of handling difficult fractures should ever operate upon such cases. The masters of conservative methods know that good functional results may be obtained by conservative treatment in practically every case of fracture which will yield good results from operation. Such surgeons will not set the stage for a disastrous, perhaps fatal, infection by operating upon bone through an unsafe or contaminated field. Always when they must deal with contaminated fields of operation they will confine their procedures to such cleansing and redressment as is best compatible with the patient's safety. Practically never will they introduce foreign body fixation into a contaminated field. They will play safe rather than take a gambler's chance on saving time or obtaining a particularly quick and brilliant result.

I have gotten good results in cases similar to Doctor Adams' Case No. 7 (an extensively comminuted, compounded and contaminated fracture of both bones just above the ankle joint) by conservative methods, using a Thomas splint, celluloid-acetone adhesive foot piece for traction and Carrell-Dakin irrigation of the wound. For safety sake I do not use internal foreign body fixation on such cases.

I once knew a youth who, while handling dynamite, always put the giant-powder cap into his mouth and crimped it upon the fuse with his teeth. Cap-crimping pliers were provided, but this youth said he knew a man whose hand was blown off while crimping a cap with pliers. For himself, he preferred to crimp them delicately with his teeth. If the cap exploded, well—at least he would not be a cripple. I think such reasoning should never be applied in bone surgery.

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N. Austin Cary, M. D. (2939 Summit Street, Oakland).—Doctor Adams, I am sure, has a clear insight into the fracture situation. He impresses me with the belief that as the result of experience he approaches the problem of difficult fractures with but one thought in mind—the ultimate end results.

It must be remembered there is no one method applicable to all fractures. Manipulation, traction (both skin and skeletal), and open reduction all play their rôle and will, in given cases, be of use in turn. The proper choice must be the result of experience over a long period.

Our experiences in these fractures follow fairly fixed principles. Reduction is necessary for good functional results, not necessarily to correct overriding as much as alignment to assure normal function. At times this can only be obtained by open reduction; with the laws of good surgery governing, there should be little difficulty.

In open reductions I would urge a greater respect for the soft tissues, especially about the site of fracture, as I believe this occasions most of our delayed unions and nonunions. This, with inadequate fixation and the use of inadequate materials, give the greater number of poor results. At times there is too much fussing with a good functional result trying to obtain an ideal x-ray result. Functional results should always be our criteria of treatment.

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Doctor Adams (Closing).—I wish to thank Doctors Cleary, Dukes, and Cary for their frank and instructive discussions. I do not wish to convey the impression that wholesale open reductions be done on fractured bones, for it will be noted that I presented two case records where the conservative closed reduction was done. However, I do feel that too often we see great disability due to stiffened joints and muscular atrophy caused by such long periods of necessary immobilization, especially when nonunion or bad deformity has resulted after two or three months, and then more immobilization superimposed because a delayed operation has become necessary for their correction. These stiffened joints and muscle damage so frequently cause irreparable long and permanent disability and could have been avoided if early operation had been done.

Now remember, I am referring to those cases where the skin and soft tissues are in good condition. If these are contaminated and in poor condition, then such time should elapse for their complete healing before operating. That is only sound surgical judgment. Our doctors are now so thoroughly trained and warned of the dangers and pitfalls of fractures that affirmation on the part of the orthopedists for earlier and more frequent open bone work would not result in wholesale operations by everyone in all fractures. Open bone work was looked upon with horror and dread—justly so, years ago. With the present-day teachings, improvement of technique, better trained surgeons, and our excellent hospital facilities, those dangers are little as compared with the numbers of poor results obtained by a forced operation after too long immobilization and extension when the injured's resistance has become extremely low. I say if fractures of the long bones, when uncomplicated, cannot be reduced, conservatively, in six to ten days, do the open operation. In these cases, especially of the legs, weight bearing can be started with safety and without bowing, much earlier than could possibly happen if treated by the closed method.

BLOOD PRESSURE AND GOITER[*]

By John Martin Askey, M. D.
and
Clarence G. Toland, M. D.
Los Angeles

Discussion *by Robertson Ward, M. D., San Francisco; B. O. Raulston, M. D., Los Angeles; John C. Ruddock, M. D., Los Angeles.*

THYROTOXICOSIS is a commonly accepted cause for hypertension and must be ruled out in the study of any patient with high blood pressure of undetermined origin.

This is the prevailing impression despite certain experimental evidence pointing to the contrary. Intravenous injection of extracts of exophthalmic goiters by Blackford, Sandiford, and others has produced marked reduction of the blood pressure and has indicated the presence of a depressor substance in the thyroid extract. Reduction occurred only with exophthalmic goiter extracts, not with adenomas, colloid goiters or normal thyroids, and occurred only after the first injection. Apparently a tolerance toward further injections was established.

Some have reported cases tending to show low blood pressure as the typical finding in exophthalmic goiter, but the groups studied have been small.

On the other hand, Plummer in 1915 found a high percentage of hypertension in goiter patients over forty, namely, 47 per cent of the hyperplastic group and 35 per cent of the nonhyperplastic group.

TYPICAL BLOOD PRESSURE IN EXOPHTHALMIC GOITER

The blood pressure typically described in exophthalmic goiter is that of an elevated systolic pressure with a normal or lowered diastolic and a consequent elevation of the pulse pressure. The peripheral vasomotor phenomena, with the wide-open capillaries aiding in heat dissipation, tend toward a lowered diastolic pressure, and the increased systolic pressure is considered compensatory toward maintenance of a normal diastolic pressure. The systolic has been considered as increasing more or less directly with the basal metabolism and the pulse pressure has been advanced as a measure of the basal metabolism.

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[*] Read before the July meeting of the American Association for the Study of Goiter at Seattle, Washington.

USUAL PICTURE IN TOXIC ADENOMATOUS GOITER

No such typical picture occurs with the toxic adenomatous goiter. Hypertension here is usually due to a concomitant elevation of the systolic and diastolic pressure, and is somewhat similar to that seen in arteriosclerosis. The peripheral flushing, sweating, and vasomotor changes are less marked in toxic adenomas, and could explain the absence of a low diastolic pressure. These are the commonly accepted views regarding blood pressure and thyrotoxicosis.

STUDY OF FIVE HUNDRED AND FIFTY RECORDS

The failure of many of our patients with thyrotoxicosis of marked degree to show any elevation of pressure led us to study a representative group with the following thoughts:

Is the production of hypertension an invariable sequela of thyrotoxicosis?

In what percentage does it occur?

How often does low blood pressure occur?

What is the effect of thyroidectomy?

Which cases respond best to thyroidectomy?

We determined the percentage of patients with high, normal, and low blood pressure and compared them with figures as nearly normal as could be obtained. Exton's figures obtained for those applying for insurance over a period of years were used. The standards adopted for high pressure and low pressure readings were arbitrary. Regardless of age, a systolic pressure over 150, or a diastolic pressure over 110, was regarded high. Systolic pressures below 110 were considered low.

An analysis was made of the last 550 records on the service of Dr. Clarence G. Toland. Over 90 per cent were women. Thirty and six-tenths per cent of the toxic patients had hypertension and two per cent had elevation of blood pressure above that normal for their age, but not over 150. Exton found 4.3 per cent of normal women had hypertension.

Table 1.—*Analysis of 444 Toxic Goiter Patients (Basal Metabolic Rate Average Plus 33) as to Preoperative Blood Pressure*

	Number of patients	Per cent	Per cent in normal women (Exton)
Normal pressure	275	62.0	87.6
Hypertension (above 150)	136	30.6	4.3
Hypertension (high for age) (not over 150)	9	2.0	
Low pressure	24	5.4	8.1

Table 2.—*Comparison of 100 Toxic Goiter Patients With Hypertension With 100 Toxic Goiter Patients With Normal Blood Pressure*

	Type of Goiter		Average Age	History of family cardiovascular disease
	Exophthalmic	Toxic adenoma		
Hypertension	29	71	49.3	26
*Normal blood pressure	34	62	38.3	36

* Of the remaining four patients of the 100, three had malignant adenomas, and one localized arteriosclerosis.

Five and four-tenths per cent of our toxic patients had low blood pressure. Normally, Exton found 8.1 per cent. The percentage of hypertension was slightly higher in the toxic adenomas than in the exophthalmic goiters.

Thyrotoxicosis thus produced definite hypertension in about one-third of this group and did not appreciably change the percentage of patients with low blood pressure from that found in a normal group. These results thus fail to substantiate the experimental findings obtained by intravenous injection of extracts of toxic goiters, where a definite drop in blood pressure occurred.

As the basal metabolism rate average of this group was plus 33, it is evident that thyrotoxicosis does not invariably invoke elevated blood pressure, and that in this group over two-thirds failed to show any elevation of pressure.

Of the 33 per cent showing definite hypertension, the exophthalmic goiter patients showed, on an average, the pulse pressure increased more than the adenomatous patients, as was expected; but individually there was no definite correlation between the height of the basal metabolism and the height of the pulse pressure. A high pulse pressure did not always occur with a high basal metabolic rate. Comparison of one hundred records of toxic goiter with hypertension, with one hundred records of toxic goiter with normal pressure indicated a greater tendency of the toxic adenomas toward hypertension. As would be expected, the average age of the hypertension group was higher but, strangely, there was a smaller percentage of these patients with a family history of cardiovascular disease. These findings merely strengthen the impression that the greater the duration of the thyrotoxicosis the more probably hypertension will develop.

Following thyroidectomy, of one hundred toxic thyroid patients with hypertension, forty-seven had returned to normal pressure, thirty-three showed reduction of pressure but not to normal, and twenty showed no individual improvement and, on the average, actually became worse.

The exophthalmic goiter patients, a group with a lower average age and a higher average basal metabolic rate, showed a greater tendency to return to normal than the toxic adenomatous patients. Of the twenty whose pressure actually

Table 3.—*Results in Blood Pressure After Thyroidectomy in One Hundred Toxic Goiter Patients*

Blood pressure	Report of 100 patients	Age	Basal Metabolism	Pressure Before	Pressure After
Reduction to normal	47	45.9	Plus 41	$\frac{165}{87}$	$\frac{136}{80}$
Improvement but not normal	33	49.7	Plus 34	$\frac{184}{91}$	$\frac{161}{89}$
No improvement or worse	20	50	Plus 35	$\frac{160}{85}$	$\frac{171}{98}$

became worse, 75 per cent had toxic adenomas and averaged fifty years of age. Most of these showed either generalized arteriosclerosis, myocardial or renal damage.

COMMENT

The duration of the exophthalmic goiter is more transient and the toxicity, on the average, more intense. Most of these patients come to operation within the first year after the onset of symptoms. These develop the vasomotor phenomena lacking in the patient with typical toxic adenoma.

The toxic adenomatous patient, however, comes to operation after about fifteen years. The cardiovascular system has been subjected to a slow, persistent irritation which manifests itself in myocardial damage and arteriosclerosis.

It is thus logical that the blood pressure of the toxic adenomatous patient should show less tendency toward reduction by thyroidectomy than the patient with exophthalmic goiter where the elevation of systolic pressure is due to a transient toxicity rather than definite arterial damage.

CONCLUSIONS

1. Thyrotoxicosis in a group studied produced elevation of blood pressure in about 33 per cent.
2. Thyrotoxicosis did not invariably cause elevated blood pressure, the majority apparently being within normal limits.
3. About 80 per cent with hypertension showed improvement of blood pressure after thyroidectomy, 47 per cent being reduced to normal.
4. Apparently the older the patient the greater the toxicity of the goiter; the longer the duration of the thyrotoxicosis (as in the toxic adenoma) the greater the tendency toward hypertension.

1930 Wilshire Boulevard.

DISCUSSION

Robertson Ward, M. D. (384 Post Street, San Francisco).—In attempting to reach a prognosis of hypertension, associated with toxic goiter, one must be particularly careful to distinguish between the two distinct types of toxic goiter, exophthalmic and adenomatous. To attempt to draw a conclusion by study of a mixed group is almost certain to lead to false conclusions. There are two reasons why this is true: first, the average age at operation for exophthalmic goiter is about thirty-three, while that for toxic adenoma is about forty-seven; and second, the average duration of toxicity before operation is about one and one-half years in exophthalmic goiter and fifteen years in toxic adenoma.

From these findings, one would be led to suspect that the prognosis for a return to normal blood pressure, following operation, would be far better in the exophthalmic than in the adenomatous type. If we had available the data from which Doctor Askey and Doctor Toland compiled their paper, I feel sure that this would be found true. Because of the younger age and shorter duration of symptoms, we would find that hypertension—due to exophthalmic goiter—is brought to normal, or at least much lowered, by treatment in all patients, except the percentage expected in normal individuals. In toxic adenoma, it is a different story. The arteriosclerosis, resulting from ten to fifteen years of toxicity, and the rather advanced age at which these patients are treated, makes the prognosis for a return to normal blood pressure very much less likely.

This has been suggested by the authors when they state that fifteen of twenty patients, whose hypertension was not improved by operation, were of the adenomatous type.

Unless these findings are understood in this light, we will find ourselves frequently disappointed in the hypertension due to adenomatous goiter. We must be particularly guarded in our prognosis with regard to the hypertension phase in these patients. On the other hand, a patient who has hypertension, associated with exophthalmic goiter, may reasonably be expected to return to normal blood pressure when the toxic goiter is removed.

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B. O. Raulston, M. D. (2007 Wilshire Boulevard, Los Angeles).—There are so many factors to be considered in the study of hypertension that one welcomes any information concerning the problem, and especially the record of such carefully made observations as constitute the basis of the report made by Doctors Askey and Toland. Diagnosis, plan of management and results that may reasonably be expected in the treatment of any given condition of impaired health, depend to a large degree for their accuracy and success upon making use of knowledge that has accumulated from the type of careful study represented here.

The sharp lines that are drawn by specialization in medical practice are frequently not conducive to alertness in making general observations. It is easy to imagine a physician dealing with a patient whose blood pressure is above average without thinking seriously of the possibility of thyroid disease as being related to it, and of dealing with one suffering from disturbed thyroid function without relating it to such circulatory changes as produce hypertension. The ability to determine whether these two conditions are related, frequently requires careful analysis of all available data, and even then one cannot always feel certain of knowing how much independence of cause may be back of either of the conditions.

That the thyroid has a marked influence upon the vascular system, especially the vasomotor apparatus, is well known. Abnormal variations in thyroid activity over long periods may easily result in organic changes in the circulatory mechanism where only functional disturbances were produced in the early stages of the disease. The observations made by the authors indicate such a relationship between duration of abnormal thyroid activity and permanency of change in the vascular system.

Having these things in mind should be a valuable aid in the study of patients presenting such problems.

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John C. Ruddock, M. D. (1930 Wilshire Boulevard, Los Angeles).—Statistics of this character are very valuable to the advancement of medical practice. In addition, these figures help with others of like nature to dispel various axioms and dogmatic statements concerning the phenomena associated with thyroid dysfunction.

Abnormal blood pressure is a symptom which may be due to a great many factors other than thyroid disease. However, we are dealing in this paper only with those patients who have an additional factor, namely, goiter. It has been shown by other authors that the effect of the thyroid on the heart is through the sympathetic nervous system, and that the symptomatic phenomena accompanying thyroid disease (exophthalmic goiter and toxic adenoma) are identical to those found in sympathetic neurosis.

In the goiter patient we have three additional factors which are not found in patients without goiters:

1. Heart hurry (tachycardia).
2. Vasomotor instability.
3. Toxicosis (thyroid).

The authors have called attention to the vasomotor instability as being responsible for lowered diastolic pressure, and have called attention to work by Blackford, Sandiford, and others, concerning the effect of injecting toxic thyroid extracts, and producing only a transient depressor effect.

With all other factors remaining normal, heart hurry (tachycardia) alone is all-important in the height of systolic pressures. It is true that tachycardia may also be, in certain instances, a compensatory phenomenon, when there is a sudden lowering of blood pressure due to a dilated venous circulation as may occur in shock. Tachycardia, however, in thyroid disease is a result of the sympathetic accelerator action from a thyrotoxicosis. I believe that further study of blood pressures in exophthalmic goiters will show that the systolic pressures are in a direct ratio to the pulse rate. This, however, could not apply to toxic adenomas because of the other multitudinous factors, aside from thyroid disease, which enter into the question of hypertension. Doctors Toland and Askey should be complimented on this report, which I feel is only preliminary to a much more extensive one on the same subject.

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Doctors Askey and Toland (Closing).—The point we particularly wish to bring out is that there is no "typical" blood pressure in thyrotoxicosis. It may be accompanied by hypotension, normal blood pressure, or hypertension. Apparently the majority (62 per cent in our series) have normal pressure. The most of these were adenomatous patients and definitely toxic.

Many, however, were of the exophthalmic type, and failed to show the so-called typical lowering of the diastolic pressure and elevation of the systolic pressure.

The peculiar selectivity by which the thyroid toxin produces hypotension in one individual and hypertension in another has not yet been adequately explained by the physiologists. The discussion has emphasized the better prognosis for reduction of hypertension after thyroidectomy in exophthalmic goiter.

We believe, as does Doctor Ruddock, that tachycardia is largely responsible for hypertension in the exophthalmic goiter patient.

RETROBULBAR NEURITIS AND MULTIPLE SCLEROSIS

SOME OBSERVATIONS WITH QUANTITATIVE CHARTS AND REPORT OF CASE

PART II

By Clifford B. Walker, M. D.
Los Angeles

Discussion *by Dohrmann K. Pischel, M. D., San Francisco; M. F. Weymann, Los Angeles.*

Case 2.—Patient came under observation on March 11, 1930. Miss V. E. S. Age, eleven. White. *Complaint.*—Sudden blindness in left eye with circumocular pain.

History.—Child has had measles. Chicken-pox, very slight. Never mumps or whooping cough. She is a very athletic, romping youngster, especially as regards basketball and swimming. For two weeks had a "little cold" which took the pleasure out of her games because of tired feeling and leg ache. One week ago, although feeling quite well otherwise, awakened with a dull pain and tenderness in region of left eye and noticed she could hardly see out of left eye. Referred for question of sinus operation. Injury denied. No discoloration of affected parts at any time. X-ray and nose examination already negative by rhinologist.

Fundi show no departure from normal physiological limits, as seen by Dr. La Motte and myself. Color of disks rosy and same in both eyes. Pupils still somewhat dilated from previously used drops.

Vision: Right, 20/30; left, 20/100. Glasses do not improve. Parents and examiners of patient consider vision of right eye as good as ever and unaffected.

Fields: Figures 7 to 9 show both eyes affected in such a way as to suggest that the lesion (neuritis) is probably close to the chiasm or has extended to the chiasm. The fourth or final field on April 18, 1930, was entirely normal within physiologic variations. Space is too limited to reproduce it here. There has been no setback to date.

Comment.—In this case we have apparently the typical field series to be obtained in the typical case of retrobulbar neuritis, outlined in the carefully considered definitions summarized from the literature by Dunphy[15] as a "rather rapid loss of visual acuity, with central scotoma and usually normal but at times varying peripheral fields. There may be pain and tenderness on moving the eyeball. The ophthalmoscopic picture is usually normal. One or both eyes may be affected. There is a definite tendency toward recovery, though in some cases damage is permanent."

It is possible that with the more prevalent use of quantitative perimetry it will be found, as our experience has shown, that the peripheral field can hardly be referred to as normal in most of these patients. To be sure, it is usually normal to ordinary tests, but to the 1/2000 or 2/2000 test objects contractures of the peripheral field are often demonstrable and are frequently more marked on the temporal side at some of the progressive stages. The enlargement of the blind spot may be in this same category that is really a peripheral contracture.

These two cases may be taken as typical of two usual types. The first or more common type in which the central field is depressed first and comes back last, and the second type in which it is depressed last or is more resistant and comes back first. In addition, the type mentioned in the previous paragraph as a temporal or bitemporal tendency may represent the third group or may be combined with the first two. The recovery period in the ordinary type is seen to vary from three weeks to almost a year. It seems possible to guarantee that a case of retrobulbar neuritis may not finally turn out to be caused by multiple sclerosis. More of these cases because of limitation of space will not be included here,[16] and only for comparison a few instances will be presented which have more notable suggestion of multiple sclerosis.

MULTIPLE SCLEROSIS

Possibly the inclination for certain cases of retrobulbar neuritis to show a tendency to a temporal or bitemporal defects may indicate a more posterior location of the point of maximum inflammation extending sometimes into the chiasm and affecting the crossed fibers more than the uncrossed. Multiple sclerosis may not only imitate these conditions, but may occur quite symmetrically in the chiasm, as first shown by Roenne,[17] so that a chiasmal tumor may be so closely imitated that an exploratory operation may be justifiable in skillful hands.

Just such an instance is beautifully demonstrated in Cushing's monograph,[1] referred to in the beginning of this paper. The following case quite closely parallels that of Doctor Cushing's series in so many respects that it would probably require an explorating operation to make the diagnosis certain.

Case 3.—Patient came under observation on February 1, 1930. Mr. E. R. N. Age, fifty-nine. White.

Complaint.—Failing vision of both eyes, more in the right.

History.—Ocular discomfort one and one-half years ago led him to change his glasses, but ten months ago definite impairment of vision of right eye was noted, which fell as low as 20/100 six months ago. Physicians could find no other trouble except a few faulty teeth, which were removed. Patient not subject to sinusitis, catarrh, or to colds.

Patient is slightly overweight and skin has just a suggestion of dryness, and yet other stigmata of hypophyseal dystrophy are lacking. Neurological examination is negative except as regards the eyes. X-ray and Wassermann examination are negative. Ocular examination discloses no abnormality except definitely pale optic disks and the field defect shown in Figure 10.

At the time of this writing some fluctuations, but no great change has taken place in the visual field and acuity. Sodium salicylate up to sixty grains a day represents the principal treatment that has been used.

* * *

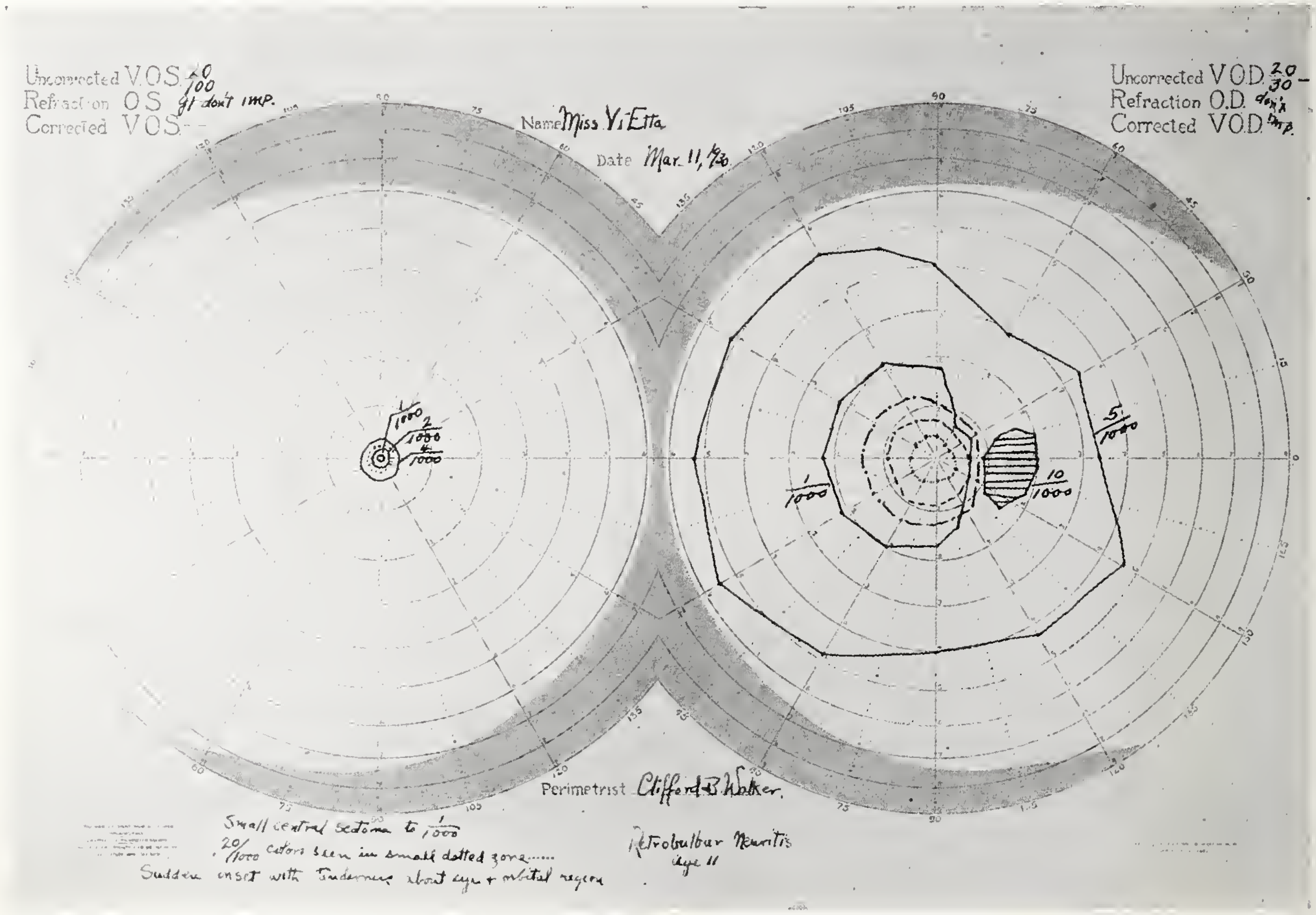
Case 4.—Patient came under observation on January 28, 1930. Mrs. H. . K. Age, twenty-eight. Married; no children.

History.—Six weeks ago vision in the right eye failed, in the course of three days, and then remained blind for one week, according to the statements of patient and family physician. Although the eyeball was rather tender to the touch there was no noticeable cold or coryza during or just before this time.

One year ago, during February, patient had paralysis and numbness of right arm, lasting six weeks.

Four years ago (she was thought to have Landry's paralysis) was partially paralyzed from high waist line down, six weeks' duration.

Has had low posterior headaches for many years.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Refraction O S gl don't imp.
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Name Miss Vi Etta
Date Mar. 11, '30
Uncorrected V.O.D. 20/30 -
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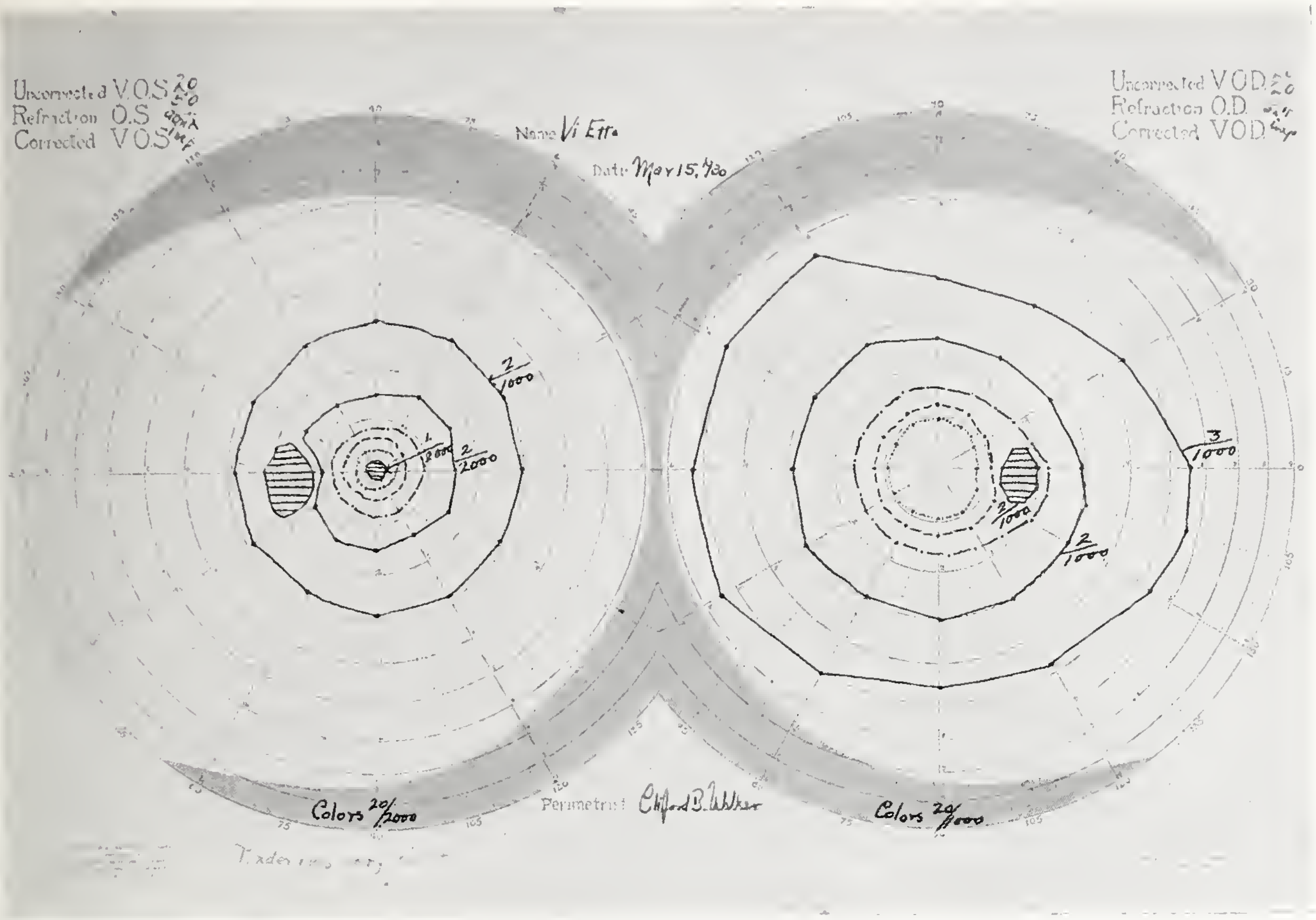
1/1000
2/1000
4/1000
5/1000
1/1000
10/1000
Perimetrist Clifford B. Walker.
Small central scotoma to 1/1000
20/1000 colors seen in small dotted zone......
Sudden onset with tenderness about eye + orbital region
Retrobulbar Neuritis
Age 11

Fig. 7 (Case 2).—Retrobulbar neuritis, seventh day. Right field shows a shrinkage of the temporal field and enlarged blind spot; left field shows a general shrinkage and central depression, yet with preservation of colors, "tubular field."


Uncorrected V.O.S 20/20
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Name Vi Etta
Date Mar 15, '30
2/1000
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Uncorrected V.O.D. 20/20
Refraction O.D.
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3/1000
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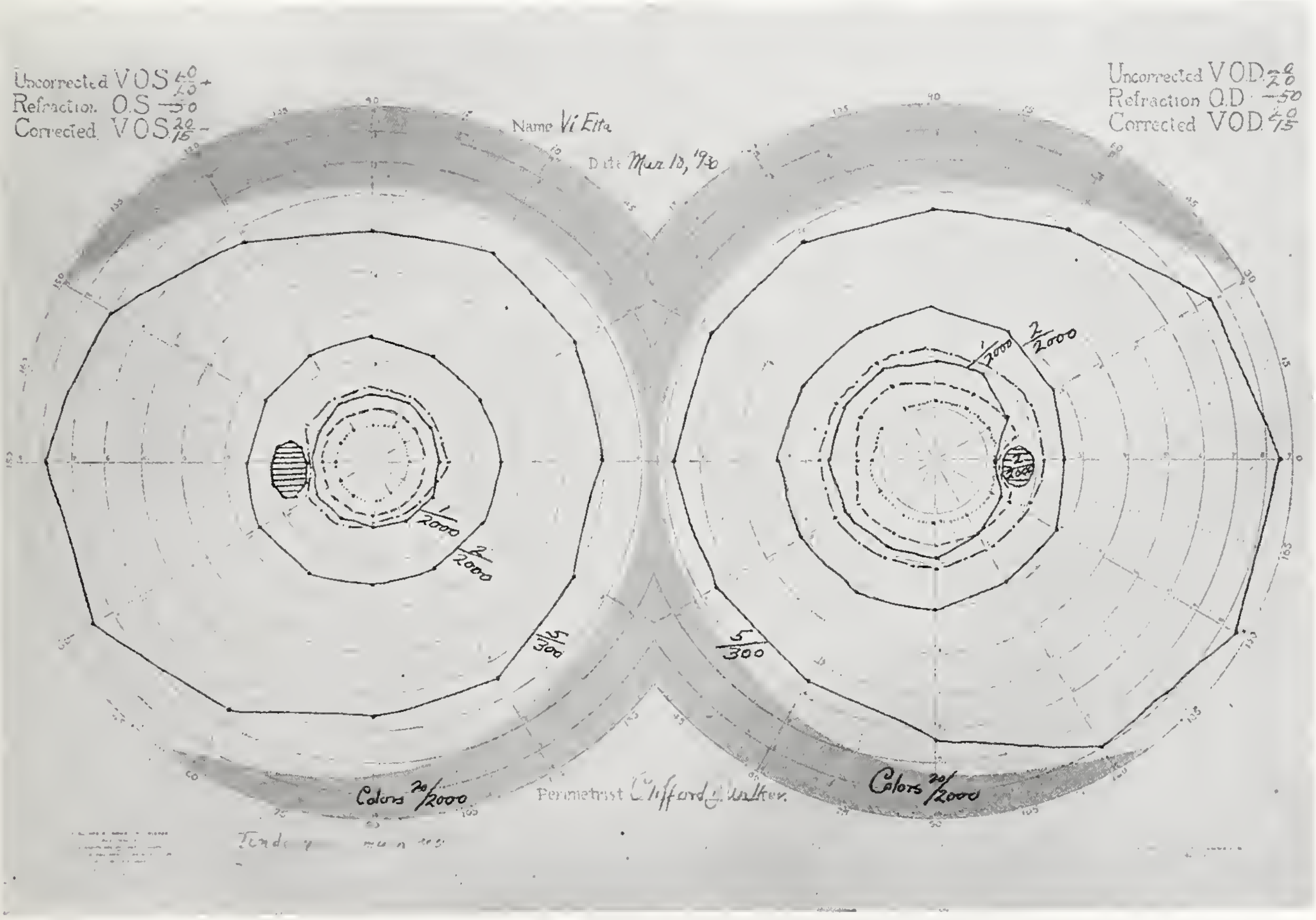
2/1000
Colors 20/2000
Perimetrist Clifford B. Walker
Colors 20/2000

Fig. 8 (Case 2).—Retrobulbar neuritis, eleventh day. Improvement marked under treatment; relatively more rapid in worse eye.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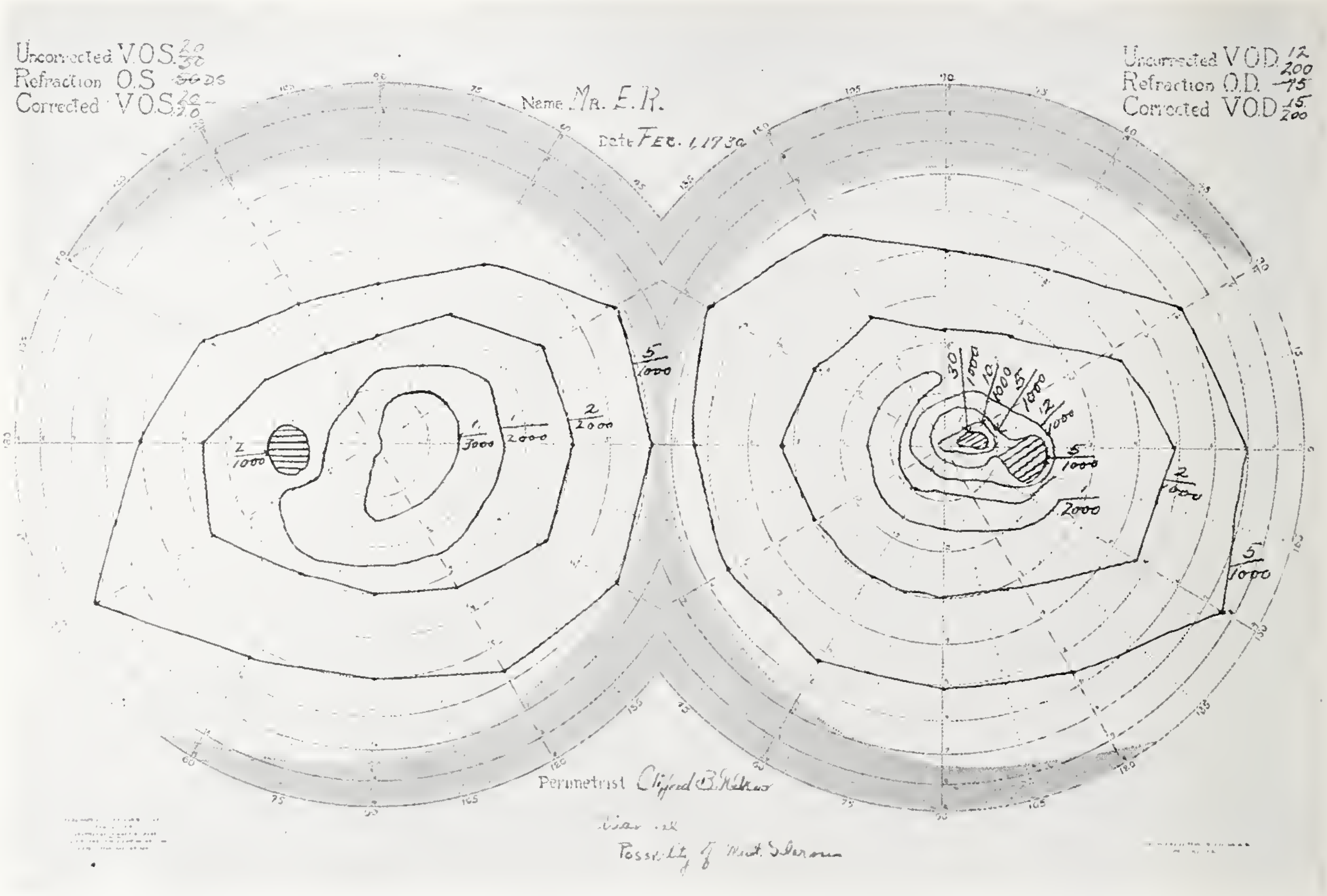
Refraction O.S -.50
Corrected V O S 20/15 -
Name Vi Etta
Date Mar 18, '30
1/2000
2/2000
5/300
Uncorrected V.O.D. 20/20
Refraction O.D. -.50
Corrected V.O.D. 40/15
1/2000
2/2000
5/300
Colors 20/2000
Perimetrist Clifford B. Walker
Colors 20/2000

Fig. 9 (Case 2).—Retrobulbar neuritis, fourteenth day. Central vision normal in both eyes. Still some contraction for small visual angles and colors.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Date Feb. 1, 1930
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Refraction O.D. -.75
Corrected V.O.D. 15/200
5/1000
2/2000
1/2000
1/3000
2/1000
30/1000
10/1000
5/1000
2/1000
5/1000
2/1000
2/2000
5/1000
Perimetrist Clifford B. Walker
Possibility of Mult. Sclerosis

Fig. 10 (Case 3).—Superior bitemporal depression of field very suggestive of tumor (tuberculum sella), but in the absence of every other confirmatory sign of symptom probability of multiple sclerosis (chiasmal) remains.

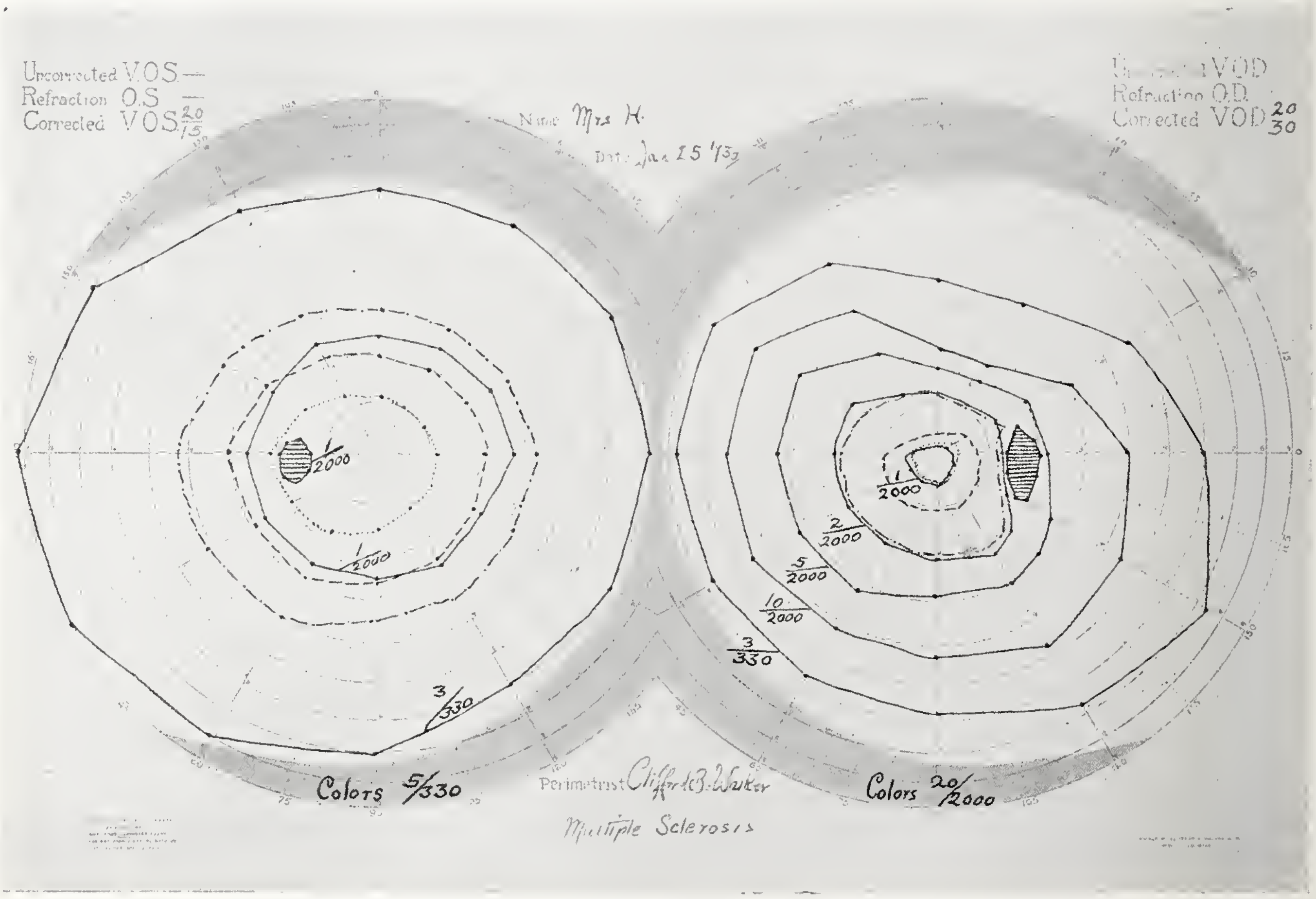
Uncorrected V.O.S. —
Refraction O.S —
Corrected V.O.S. 20/15
Name Mrs H.
Date Jan 15 '30
Uncorrected V.O.D
Refraction O.D.
Corrected V.O.D 20/30
1/2000
1/2000
3/330
1/2000
2/2000
5/2000
10/2000
3/330
Colors 5/330
Perimetrist Clifford B. Walker
Colors 20/2000
Multiple Sclerosis

Fig. 11 (Case 4).—Multiple sclerosis. Again the tendency to upper temporal field contracture so commonly seen in retrobulbar neuritis and chiasmal lesions.

At present the vision in the right eye has improved a great deal since the sudden blindness six weeks ago, and a careful field examination is desired with quantitative perimetry to make the diagnosis if possible.

There are no remnants of the previous palsies, and headaches have disappeared under medical treatment. The neurological examination by Dr. Leon Myers was negative. Wassermann, negative. Sinus x-rays were negative, and no calcification granules or bony distortion of the sella could be demonstrated by x-ray (American tubes). No evidence of scanning speech, tremor or nystagmus. Ocular examination disclosed no pain or tenderness to the touch.

No imbalance or limitation of motion of the eyeballs. Anterior and posterior segments of the eyes show normal pictures. Without the history, a perfectly normal appearance of the optic disks would be reported without doubt. Possibly a suggestion of pallor of the right disk. Fundus and tension were normal.

Fields (figure 11) show in the right eye only the peculiar tendency to upper temporal contraction with central depression as in the previous case, though less marked.

Comment.—The symptom complex of multiple sclerosis is not complete in this instance, yet it is perhaps considerably more suggestive than some of the others in which the diagnosis has inclined toward multiple sclerosis. It may take many years before the diagnosis becomes unquestionable, as for instance, in cases with a final confirmatory autopsy as reported by Nielsen, Wilson, and Dieterle.[18] In one of their patients the earliest symptoms were noted forty-seven years before the correct diagnosis was carefully considered, this being done during the last year of the patient's life. The condition probably began at the age of twenty-six at which time deafness in one ear followed by Ménière's syndrome was a complication, in such a way as to indicate that multiple sclerosis could readily have been the cause of that also.

GENERAL OBSERVATIONS

As time goes on the indications are that more cases of retrobulbar neuritis will be transferred to the multiple sclerosis group.

In this series of cases it is notable that two reports have been selected from each group which seem to represent the group not only in characteristics, but also in number; that is, the proportion of 50 per cent each seems to be approximated.

Again the number of cases due to acute purulent involvement of the sinuses is limited in this series to not over four per cent.

A retrobulbar neuritis of more prolonged type (neighborhood of three months' duration without much improvement) must be differentiated from chiasmal lesions and multiple sclerosis. For instance, a question of Leber's disease as well as a Foster Kennedy syndrome, both thought to be of retrobulbar neuritic origin, might require such a differentiation in the early stages.

The nonpurulent instances of retrobulbar neuritis of short recovery period (neighborhood of three to six weeks) must receive a guarded prognosis since time alone may serve to differentiate from multiple sclerosis.

SUMMARY

1. More visual fields must be taken carefully by quantitative methods to render more positive differentiation of the causes of retrobulbar neuritis.

2. A series of quantitative fields, correctly taken by the same person at intervals corresponding to rate of suspected visual change, will be of the greatest value in differential diagnosis.

3. The one- and two-meter Bjerrum screen offers the most rapid and accurate[19] method of obtaining measurements of the finer changes, often not even suggested by ordinary perimetric methods.

410 Auditorium Building, 427 West Fifth Street.

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DISCUSSION

M. F. Weymann, M. D. (2007 Wilshire Boulevard, Los Angeles).—Doctor Walker first became interested in the relationship between certain forms of retrobulbar neuritis and nasal infection in the latter part of his eye service at the Massachusetts Eye and Ear Infirmary. While on the ear service under Dr. Leon White in 1914, he did his first work in this connection by simple removal of the middle turbinates and ethmoid-sphenoid curettage on some patients obtained from the eye clinic. As these results were encouraging, he described this work to Dr. Leon White and suggested that they do a series of cases in order that he might get further surgical instruction from Doctor White. Before this could be accomplished he was transferred to the service of Doctor Cushing, where all optic neuritis cases were considered due to intracranial pressure. Argument on this subject between Cushing and White has finally led to a concession of some points by each of them, and Doctor Walker has introduced the consideration of multiple sclerosis as an additional factor in his paper.

At the present time there is a tendency by the German and French writers to consider retrobulbar neuritis as a symptom of multiple sclerosis in the majority of cases.

Naturally the work of White in this country was received with favor by rhinologists, as it provided increased surgery for them, and by the ophthalmologists because it gave them some active treatment for retrobulbar neuritis. Sluder would open the sphenoids in such patients just upon finding a little glairy mucus, and I have seen some such patients in whom the immediate improvement was striking. One such patient operated upon for me showed marked improvement in the field *by measurement* on the fourth postoperative day.

Of course those physicians who do not admit that the sphenoids or ethmoids can be the cause of neuritis in the absence of pus would say that this improvement was a coincidence. My own attitude in the matter is that many patients are unnecessarily operated upon, but that if I were the patient and my vision and field were progressively diminishing in spite of conservative treatment of several days' duration, I should submit to a sinus operation by a competent operator.

The theory that a filterable virus may be a cause in the production of retrobulbar neuritis is not untenable, but it would seem to me more likely that instead of the virus being both a cause of the influenza and the optic neuritis that the influenza or other such illness so weakens the constitutional resistance that a virus already existing in the nasopharynx is able to attack the nerve through dehiscences, or even thinned walls. It has been shown that many individuals carry the virus of herpes, which only becomes active and causes "fever blisters" after some exposure which lowers the resistance, such as febrile disease, sunburn, or mechanical irritation.

This problem of retrobulbar neuritis is still far from solved, but until more definite information is at hand we owe it to our patients and ourselves to take even radical steps, when necessary, with the hope of conserving their vision. There have been too many reports of improvement after sinus operations to disregard this factor entirely and ascribe all cases to multiple sclerosis. Nevertheless, from the evidence presented we can see that many cases are doubtless a manifestation of multiple sclerosis, so conservative therapy should always be given a fair trial.

Doctor Walker is to be commended for his painstaking observations and records, the collection of which has taken more time than we realize.

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Dohrmann K. Pischel, M. D. (490 Post Street, San Francisco).—Is it not possible that European observers have reported such a high percentage of cases of retrobulbar neuritis due to multiple sclerosis because the latter disease is much more prevalent abroad than here in America. If one takes this fact into consideration the differences in the various figures given by observers can be easily understood.

LOW GRADE ETHMOIDITIS—AS A CAUSE OF CERTAIN EYE CONDITIONS*

By Wallace Bruce Smith, M. D.
San Francisco

Discussion *by Dohrmann K. Pischel, M. D., San Francisco.*

The accessory sinuses of the nose are the subject of a great deal of discussion in the current literature and in the proceedings of the various ophthalmologic and rhinologic societies.

The rhinologists of the past generation worked out the anatomy, pathology, symptoms, differential diagnosis and treatment of acute and chronic accessory sinus diseases. The progress of this work was made through a fog of confusion and was relatively slow. There is still a great deal to learn and some things to unlearn. Closely associated with the rhinologist from the beginning has been the ophthalmologist. In this generation the growth of the idea of focal infection disease added to the importance of sinus disease, in relation to medicine visualized from a large general viewpoint. After the rhinologist and opthalmologist, has come the internist with a whole new crop of conditions whose origin may be referable to the sinuses. The orthopedist came next with his waves of stimuli and the pediatrist is the last from a major field of medicine to refocus attention to sinus infections. So when we have this summation of references to the sinuses we perceive their importance in that highest and most stimulating branch of all medicine, namely, clinical medicine.

It behooves the rhinologist to have an exact knowledge of nose anatomy, pathology and physiology, and he not only should be able to remove the diseased mucous membrane or bone or both, but also to leave the nose in such normal anatomical relation that there will be an ultimate restoration of physiology. It may not always be possible to remove all diseased tissue from the accessory sinuses but it is possible to leave the nose physiologically correct. With the aids of time, climate, diet and attention to the general health we can expect an improvement or healing. Ordinarily there is no operation on the sinuses save that for a concha bullosa, or air cell in the middle turbinate, which requires removal of either lower or middle turbinate. They carry on the main function of the nose as the thumb and index finger carry on that of the hand, and the turbinates should be accorded the same relative importance. Next in importance to their preservation is the necessity for straightness of the septum, which condition should be attained before surgical procedures on any of the sinuses.

ANATOMIC RELATION: THEORIES OF RELATION BETWEEN SINUS INFECTIONS AND TISSUES OF THE EYE

The whole question of sinus infection in relation to disease of the eye is, of course, too large for review in the few minutes allowed for this paper. We know that any eye condition which can be caused by focal infection may and frequently does have the sinuses as the originating focus. So out of the group, there has been selected for your consideration a condition which, on account of the interdependence of oculist and rhinologist, forms ever a high coördination point in our specialties. As such, it is a question of almost unending interest, hard at times to handle, and one in which the results vary directly as the experience and coöperative abilities of the physicians on the case. I refer to retrobulbar neuritis with central scotoma and to ethmoiditis as a cause of retrobulbar neuritis with central scotoma. A mass of literature and controversy comes to mind at the mention of it. One of the best papers in English is by White, who quotes from others at some length as to the manner in which the sinus disease produces the eye condition. The earlier writers stress the anatomic relation between the two. And in any sinus-optic nerve anatomy the name and vision of Onodi must always arise. There are few among you who have not seen, not only one, but many of his plates, in any treatise where head anatomy or accessory sinus anatomy is discussed.

REVIEW OF THE LITERATURE

Theory of Toxemia.—The toxemic or blood stream view started in 1909 by Krauss, who noted the rapid recovery following the institution of adequate drainage and the fact that the maculae fibers are selected for the specific action by the inflammation.

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* Read before the Eye, Ear, Nose and Throat Section of the California Medical Association at the Fifty-ninth Annual Session, Del Monte, April 28-May 1, 1930.

Teillais in 1908 reported a case in which toxemia seemed to play a large role, viz., extraction of left molar, left antrum infected, other sinuses infected, orbital cellulitis, blindness and optic atrophy on the left side and a neuro-retinitis on the right side.

MacWhinnie in 1910 noticed increased fundus congestion following the probing of the sphenoid sinus. He mentions that there is no established relation between the lymphatics of the eye and the sinus other than the very noticeable widening of the perivascular lymph channels in the axial strand demonstrated first by Shieck pathologically. He reports five cases with good results and states that he believes it is a good practice to open the sphenoid. Also believes in the toxin absorption theory.

Gradle in 1915, after giving anatomic relations and blood supply of the optic nerve in accordance with the teachings of Onodi, Loeb, Vossius and Gray, says: "These anatomic facts explain the course of the disease from the accessory sinuses to the optic nerve. The infection, the edema, or whatever may be the disturbing factor, passes from the sinus periosteum through the diploic veins and lymph channels to the orbital periosteum, thence by continuity to the inter-canalicular portion of the dura of the optic nerve, or probably through the periosteal veins or the dural veins directly to the central vein of Vossius. If the dura alone is involved, thus causing pressure upon the periphery of the optic nerve within the canal, the peripapillar bundles alone will be involved and an enlargement of the blind spot will result. If the process extends further and involves the central vein of Vossius, surrounding it by an edema, the neighboring nerve bundles will suffer. These happen to be the papillomacular bundles and then results a central scotoma. Consequently, I believe that I am justified in stating (contrary to the teachings of Onodi and Loeb) that the anatomic relations of the sphenoid and ethmoid cells to the optic canal are immaterial when it comes to a question of optic nerve involvement in accessory sinus disease. The trouble is transmitted by the soft tissues alone."

Stark in 1916 says: "The eye symptoms of multiple sclerosis and sinus blindness which have been previously considered different diseases are to my mind the same . . . one being the advanced form of the other."

Vail in 1919: "The disease should be recognized and operation on the ethmoid performed at once in spite of its being normal in appearance."

Caldwell, Risley and Schimer have at different times brought out the detrimental effects of delayed surgery.

The best articles in the German literature are by Meller, who discusses the rhinologic origin of retrobulbar neuritis, and Marburg, whose paper is on the multiple sclerosis origin.

These two conditions, sinusitis and multiple sclerosis, are the principal causes and are at times hard to separate. A multiple sclerosis patient in whom no discernible sign of his condition is present can develop an acute cold. This goes into an ethmoiditis and retrobulbar neuritis. Months or even years later the symptoms of his multiple sclerosis appear. The inflamed sinus touched off an eye condition long before it otherwise would have developed if it had followed the natural sequence of the primary underlying cause.

So it is possible for the two etiologic causes of retrobulbar neuritis to overlap and run for a time concurrently. Our main object, however, is the rhinologic class. Meller, after considerable argument, summarizes his conclusions in the statement that the rhinologist is the "ausfährend organ" of the ophthalmologist; that the rhinologist should be guided by the eye findings and the opinion of the ophthalmologist rather than by the nose findings and opinion to be derived from the nose findings. I believe this is as nearly correct a statement as it is possible to formulate regarding procedure, provided the necessary examinations and consultations have previously been had with internist and neurologist.

ETHMOIDITIS OF NASAL ORIGIN

If now we were to set aside all cases save those of nose origin, it would be in order to say something of the findings in such cases. Let the point be emphasized again that these cases represent a high coördinating point in medicine and carry an interdependence on the findings of the ophthalmologist, neurologist and rhinologist. If any one of them is not able to carry his own end the favorable progression of the patient goes askew.

As far as my own experience goes, an ethmoiditis with the customary polyp formation does not cause the condition in question.

These cases may be classified into two groups; the ones with swelling and congestion of the nose mucous membrane, nose otherwise normal anatomically and physiologically, and the other with anatomical deviations. In the former there is usually a history of a previous acute cold. Simple treatment directed to relieve the congestion and allow drainage and ventilation in a short time will relieve the eye also. The other and larger group show a high septal deviation, usually to the side affected, or if toward the opposite side there is a concha bullosa lying in the concavity and blocking off the ethmoid on the affected side. The mucous membrane in this neighborhood may or may not show change. The septum in the lower part of the nose is or may be straight. The x-ray is usually negative and not of material aid. It should be made but not followed as to the part referable to the ethmoid. This nose finding does not warrant a surgical procedure if no eye condition is present. But in retrobulbar neuritis it is the usual rhinologic finding and if a submucous resection is done and the middle turbinate pressed mesially the bulla ethmoidalis comes into view. The mucous membrane of the bulla shows little or no change. With a conchotome the ethmoid is opened. The findings in the ethmoid vary. Rarely is there free pus. The intercellular bone is broken down, soft and necrotic, the mucous membrane atrophic in places, other areas show hypertrophy, even to small polyp formation the size of a pea and lying wholly within the ethmoid labyrinth. The whole ethmoid is soft with a mushy feel and easily removed, very different from the firm, crisp feel of a normal ethmoid. After the ethmoid is curetted, the sphenoid is brought into view by pushing the middle turbinate laterally. To enlarge the opening in it is one of the simple procedures in rhinology. It seems to be rarely involved in this condition. The patient's eye symptoms show improvement within twenty-four to forty-eight hours.

SUMMARY

A certain number of cases of retrobulbar neuritis with central scotoma are caused by accessory sinus disease, usually ethmoiditis. Both the eye condition and the nose condition are ordinarily unilateral.

The toxemia or blood stream mode of transmission of the disease to the optic nerve is more probably correct than transmission by continuity or contiguity of anatomic structure.

All cases do not require operation.

The indication for operation rests principally on the eye findings, although careful inspection in the nose usually shows some mucous membrane change or anatomic anomaly.

Coöperation of rhinologist and ophthalmologist is essential to the patient.

490 Post Street.

DISCUSSION

Dohrmann K. Pischel, M. D. (490 Post Street, San Francisco).—In bringing the subject of retro-bulbar neuritis to our attention, Doctor Smith shows the importance of this condition. Further, in his paper he properly emphasizes the need for close coöperation between the ophthalmologist and the rhinologist. But the coöperation must go farther, for the internist and neurologist should be consulted, and in short order. The fulminating character of many of these attacks leaves no time for temporizing if good vision is to be saved for our patient. Therefore, especially in view of the increased division of our efforts in the various specialties, coöperation must be stressed again and again.

As the ophthalmologist practically always sees the patient first, the responsibility for quickly making the correct diagnosis rests with him. There are certain classical signs and symptoms in the *usual* case. The patient comes with a history of sudden poor vision in *one* eye. He may give the history of a recent cold. Possibly, also, he experiences pain on moving the eyes, or on pressing it back into the orbit.

On examining the eye the fundus is usually normal. Thus, as one of my teachers used to say, "In retro-bulbar neuritis neither the patient nor the doctor sees anything." Occasionally an engorgement of the vessels of the optic disc can be seen.

We naturally test the vision first, and find it very poor, 20/100, 20/200, frequently less. Next the field is taken for form and found normal. Testing for a central scotoma we get a definite pathological finding. An absolute, or even a relative central scotoma is found, if not for white, then for colors, red and green especially. The blind spot is often enlarged.

Here then we have a classical set of signs; normal fundus, poor vision, normal field, central scotoma. The diagnosis of retro-bulbar neuritis stares us in the face. So far all has been easy.

In differential diagnosis, optic neuritis has been ruled out by the normal fundus. By questioning we should be able to eliminate toxic amblyopia, due to chronic use of alcohol and tobacco, as well as more acute intoxications.

The etiology must now be established. The rhinologist is called upon for his findings, concerning which Dr. Smith has spoken. The neurologist must be consulted to rule out multiple sclerosis, which condition is fortunately rarely found in America. But no time should be lost in formal reference of a patient to someone who is so busy he cannot see the patient until the end of next week. If a man is not awake to the sight-destroying possibilities of retro-bulbar neuritis he will be of little help as a consultant. I do not mean to urge hasty action based on poor examinations and poorer diagnosis, but prompt examinations and close coöperation are vital.

There is no time today to enter upon the various views held by some men that most cases of retro-bulbar neuritis are due to multiple sclerosis, and the benefit resulting from intra-nasal work is only coincidental, with a recurrence bound to come later. I can merely say that to anyone who has watched the vision drop from 20/70 to approximately finger-counting in two or three days, masterful inactivity is impossible. If any vision is to be saved, it must be saved quickly. If the case has been handled by a competent rhinologist—and here I stress the word competent, for I am aware of the danger of bungling in the ethmoid region—the very few cases which, after many years, finally turn out to have been due to multiple sclerosis, will be none the worse for having had their ethmoids opened. On the other hand, those in whom the disease was of rhinogenic origin will have been given back normal vision due to the intelligence of their medical advisers.

Formerly all good rhinologists were loath to operate on a patient when they could not see any definite pathological changes. It was with great reluctance, and under great pressure from the ophthalmologist, that they finally did operate. Recently, however, they have learned of the good results their surgery brought, and are coöperating enthusiastically.

As you all know, an extensive operation is not always necessary. Sometimes, as Herzog recommended, shrinking of the nose on the affected side with cocaine and adrenalin or ephedrine packs once or twice a day will suffice to cure the disease. If not, actual surgery must be resorted to, but not too late, or part of the optic nerve will be permanently damaged, with no possibility of normal vision. Recovery takes place very rapidly, as I will show by citing two cases.

* * *

Case 1.—Mr. J. P. Age 29. January 22, 1929.

History—Blurred vision in left eye past twenty-four hours. *Status*—The right eye was normal throughout. Left eye, field normal periphery. Central scotoma for white. Left eye vision 20/70. Fundus, normal. On January 23, 1929, the tests were repeated with the same results. Blood Wassermann negative. Roentgenological study of the sinuses and optic foramina showed normal conditions.

Examination of the nose showed slight congestion of the mucous membranes. A deviation of the septum narrowed the left portion of the nose, with several contact points between it and the middle turbinate. After shrinkage some mucus was seen. Probe puncture of the left antrum was negative. The upper part of the nose was packed with adrenalin tampons twice on this day.

January 24, 1929. Vision of left eye 20/40. Central scotoma smaller. Nose was packed again.

January 25, 1929. Vision of left eye practically 20/20. No central scotoma. Nose packed for the last time. Before patient was finally dismissed his vision had improved to 20/15.

* * *

Case 2.—Mr. J. O. Age 64. A former patient, came in May 2, 1929, stating that the vision of the right eye had blurred the past two days.

Status.—The left eye was normal throughout.

Right eye.—Vision 20/100. Normal field, large central scotoma for white.

Right side of nose, which showed marked deviation of the septum, was packed with a tampon of adrenalin and ephedrine. Two days later the vision had dropped to less than 20/100. His nose was again packed. Two days later his vision had fallen to 10/100. The next day it was 5/100 in spite of repeated nasal tampons. On May 8, an operation was performed, straightening the septum and opening the ethmoids. Six days later the vision was 20/50, and two weeks later was up to his normal visual acuity, with no central scotoma.

RAYNAUD'S DISEASE—RECENT EXPERIMENTAL STUDIES*

By William J. Kerr, M. D.
San Francisco

Discussion *by C. Latimer Callander, M. D., San Francisco; Henry H. Lissner, M. D., Los Angeles; William H. Barrow, M. D., San Diego.*

During the past year work was undertaken, in collaboration with Sir Thomas Lewis,[1] to demonstrate the applicability of certain experimental methods of studying the blood supply of the human skin, to specific clinical problems. Raynaud's disease was chosen as the malady best suited to this purpose.

In this malady the digits become periodically pale or cyanotic, and, after several winters with repeated attacks, may show loss of tissue by a process of slow, dry gangrene. It is generally assumed that an obstruction of the blood flow to the digits underlies the condition; but the site of the obstruction, its nature, and the way it is brought about, has been open to debate.

Very little has been added to the admirable description of the visible phenomena since the publication of Raynaud's monographs in 1862 and in 1874; and it was thought that no point would be gained by proceeding further with the observational method. The experimental method was, therefore, employed to investigate the condition of the hands during the actual attacks, to discover the circumstances under which such attacks occur and subside, and to induce the attacks and analyze the various factors and the mechanism underlying them.

STUDIES ON TEMPERATURE SUITED TO ATTACK

In the beginning some difficulty was experienced in determining the temperature most suited to the production of an attack, the necessary time of exposure, and the temperature of the room necessary to maintain an attack. It was found that overcooling of the digits by immersion of the hands in cold water (5 to 10 degrees centigrade),† or exposing the hands to a low outdoor temperature through an aperture, with the patient remaining in a warm room, led to failure to induce attacks. Studies of the surface temperatures on the fingers of patients during attacks showed a range from about 15 to 18 degrees. Subsequently we were frequently able to bring on attacks indoors by immersing the hands in water at 15 degrees, for periods of ten to fifteen minutes, and in several cases over a very wide range of room temperatures. The reasons why overcooling by immersion fail are: (*a*) The minute vessels of the skin in these cases react as do those of normal skin to excessive cold (0 to 10 degrees) by dilating; and pallor tends not to occur, therefore. (*b*) Dissociation of oxyhemoglobin does not occur, or occurs only slowly at these temperatures; this hinders or prevents cyanosis. (*c*) Excessive cold (0 to 10 degrees) induces an after-reaction in the skin, tending to dilate the arterioles; this reaction, though far less free than in normal subjects, always happens, and, by establishing a flow of blood through the skin, maintains a healthy-looking color.

In carrying out our study, nine out of many patients examined were selected for more elaborate tests: three patients representing the more advanced stage with dry gangrene of one or more finger tips; two patients in an intermediate group; and four patients of the milder type, and without loss of tissue. The main part of our studies occupied the months from November 1928 to April 1929, and included a long period of very cold weather in London, extending from early in December to the first week of March.

Observations were made during a large number of attacks from their very beginnings, and many were induced under control conditions with the hands kept at rest. The onset, as indicated by color changes, usually took place within ten to fifteen minutes, at a room temperature of from 10 to 18 degrees. Immersion in water at 15 degrees was also usually successful in initiating attacks. In one case we were not successful in showing the influence of cold. Emotional factors may have played some rôle in bringing about variable results in this case.

Recovery from attacks begins with a restoration of normal color within a few minutes to an hour, if the room temperature is brought to 20 degrees or more.

In milder cases the recovery at ordinary room temperatures was often rapid, with at first an increase in the depth of the violet tint. Then a bright red spot or streak would appear near the base of a finger, rapidly spreading over the finger and persisting. The temperature of the skin soon began to rise, and within about twenty minutes was very much above room temperature. This indicates an increase in the circulation and flooding with fresh oxygenated blood of the fingers, due to release of preëxisting spasm of vessels. This reaction in the milder cases indicates the response to overcooling, which assumes importance when the question of therapy is considered.

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* From the Department of Medicine, University of California Medical School, San Francisco. Work carried on in collaboration with Sir Thomas Lewis at the University College Hospital Medical School, London, while on sabbatical leave from the University of California.

* Read before the General Medicine Section of the California Medical Association at the fifty-ninth annual session at Del Monte, April 28 to May 1, 1930.

† Temperatures throughout are in the centigrade scale.

In the severe cases the temperatures of the skin closely followed the temperatures of the surrounding air. Recovery in ordinary room temperatures was slower, and frequently progressed only partially, the skin becoming bright red or salmon color in patches near the bases of the fingers, and then gradually returning to the violet tint. This return to the cyanotic tint was more noticeable at lower temperatures. These minor stages of recovery frequently were unaccompanied by changes in temperature, and indicate the release of a very small trickle of arterial blood, which is not sufficient in amount to alter the temperature of the finger. A slight release of the spasm of the arterioles is sufficient to account for the change in color from violet to red; and the gradual return to the cyanotic tint is explained by the slow oxygen-carbon dioxid exchange at this temperature. The play of colors so often described in this disease is thus readily understood. It does not indicate that the vessels are completely released from spasm.

The reaction to overcooling has been previously mentioned. In the normal subject at moderate room temperatures, a finger which has been cooled in water at or near 0 degrees for five or ten minutes, withdrawn and gently wiped dry, subsequently shows a reaction, and becomes a good deal warmer than the adjoining fingers. This reaction is usually at its height in about fifteen or twenty minutes, and continues for an hour or more. Simultaneously, the skin of the cooled part becomes bright red. These changes are due to an increased circulation to the part. This protective mechanism is of great importance to the individual, and aids in his protection during cold weather.

In milder cases of Raynaud's disease, the reaction to overcooling approaches that seen in normal subjects; whereas, in the more advanced cases the reaction is very slight, or absent. The skin may become reddened; and this may persist for hours, but indicates only a slight vasodilatation. Repeated exposures of the finger or hand may maintain an improved circulation in the part and prevent attacks of cyanosis, as will be discussed later.

A test was employed to show the rate of blood flow of a small area of the skin. When immersed in water below 10 degrees or above 40, the skin becomes red. Between these temperatures there are normal variations from cyanosis (at 20 degrees), which gradually changes to red as the higher temperatures are reached (40 to 45 degrees). In the more severe cases of Raynaud's disease, the full cyanotic tint persists until the temperature of about 30 degrees is reached; and then there is a rapid change, approaching the color tints seen in the normal subject above this point. In milder cases the curves approach the normal. This indicates that the state of the vessels in these cases deviates but little from the normal, when the fingers are kept above the temperature necessary for the production of an attack. In the more severe cases the vessels remain in spasm until much higher temperatures are reached (25 to 30 degrees). At the higher temperatures (40 to 45 degrees), the vessels in the severe cases are capable of a nearly normal expansion.

STUDY OF BLOOD VESSEL INVOLVEMENT

Studies were made on the vessels involved in the spasm, their direct stimulation, and their capacity to dilate. It may be assumed that the circulation is stopped in the fingers during an attack of deep cyanosis or marked blanching. If the finger is cut it does not bleed. Numbness appears within fifteen or twenty minutes after the onset of the attack, indicating that the nutrition of the sensory nerve endings is impaired. If the skin of the finger is examined microscopically during an attack, it will be seen that the circulation has stopped in the small field examined. Obviously none of these tests of cessation of blood flow can be used practically and with sufficient accuracy for repeated observations. We have found the color scale,[2] where a tint XIV or XV indicates full cyanosis, and VI and VII a full hyperemia, to be a reliable guide. Full cyanosis develops after the circulation has been deliberately shut off to a part, and the fingers kept warm. It is essential that the skin be of good color, and the vessels full (as by reactive hyperemia) when the circulation is obstructed, as a pale tint is not readily determined. When the full cyanotic tint appears under test conditions, while the finger is cold (15 degrees), one can assume that the circulation to the part has stopped; and if such tints appear in a warm finger, it can be assumed that the circulation in it is greatly reduced.

In spontaneous attacks of cyanosis in Raynaud's disease, the discoloration appears first at the tips of the digits and moves toward their bases. During the stage of recovery the clearing-off process first manifests itself at the bases or along the sides of the proximal phalanges; and quickly or intermittently the fingers become a bright red color again.

It was abundantly shown that the veins of the hands and fingers play no part in the vascular spasm. There is free passage from the minute vessels of the skin to the main veins of the arm.

The radial artery or the other main arteries to the hand were not found to be directly concerned with causation of the attacks. The radial pulse could always be felt during attacks, although in some instances the entire hand was affected to the wrist. The radial pulse may be small; but this phenomenon is to be observed in normal persons when the hand is cold, and therefore lacks significance.

The actual site of the obstruction required further study. When the circulation to the fingers had ceased, in attacks, it was found that exposure to warmth by soaking the hand in hot water (40 to 45 degrees) would quickly restore the pink or red color. If only the distal half or two-thirds of a finger, in attack, is exposed to hot water, there is only an increasing depth of color in the skin of the part submerged. There is only local dilatation of vessels; and there is no relief of the spasm which exists in the main digital arteries above the water line. If, however, the palm of the hand is warmed, including the bases of the fingers, the spasm of the vessels relaxes, and the color gradually returns to the finger as circulation is restored. There is evidence that the digital arteries, during an attack, are in spasm throughout their length. Smaller arteries or arterioles in the fingers and vessels of larger order and of the palmar arch, may also be simultaneously involved; but it is obvious that the chief fault does not reside in these vessels. There is also no evidence that a central reflex mechanism is active in the onset or offset of attacks.

Spasm has been produced by local cooling. In the case of fingers the area of cyanosis is less than the cooled part, indicating spasm of the deeper vessels, instead of spasm of the cutaneous branches. If some of the fingers and the corresponding side of the palm (*e. g.*, ulnar) are immersed, then the fingers show circulatory arrest in their whole length. Observations were facilitated by the use of a special tank in which the arm and hand could be cooled to any desired temperature (usually 10 to 15 degrees), and the fingers, which were passed through openings, protected by thin rubber membranes, could be maintained at a higher temperature (30 degrees) to determine the onset of cyanosis. It was found that if the fingers were kept at lower temperatures (10 to 15 degrees), the appearance time of cyanosis was delayed because of the slow, gaseous exchange. Furthermore, the degree of cyanosis was more difficult to evaluate when the skin was pale. It was necessary to cool the hand to the bases of the fingers, while the fingers beyond this point were kept warm (at 30 degrees) for the reason stated above, to bring on attacks of cyanosis—again showing that the digital arteries at their origins in the palm are closed by spasm under the conditions of cooling.

Another test which was devised showed that the palmar vessels near the bases of the fingers must be cooled to bring on attacks in the entire finger. A stream of cold water (at 10 degrees) was passed through a flat lead box, resting on the palm of the hand to the bases of the fingers. The hand was submerged in a warm bath at 30 degrees. After fifteen or more minutes, attacks could be produced if the box was properly located to include the bases of the fingers. By proper adjustment, a single finger could be put into attack. Recovery took place by passing warm water through the box, or immersing the palm in warm water after the box was removed. Another method of inducing spasm in a single finger was used in the more severe cases. A brass capsule with thin, perforated rubber membranes at each end was placed on the finger; and water at 10 degrees passed through it while the hand was submerged in a bath at 30 degrees. By this method, cyanosis would be produced in the last phalanx, and recovery take place when warm water was again passed through the capsule. These observations show that different parts of the digital vessels are equally acted upon by the cold stimulus. They are of great importance when one considers the conditions of exposure of patients suffering from this malady. The fingers are of smallest circumference, and quickly lose heat at lower temperatures. The vessels contract, and the effects are first manifested at the finger tips, gradually moving toward the bases of the fingers. If the exposure is long enough the vessels in the palms are likewise sent into spasm. Further exposure may affect the vessels of the entire hand, or, in some instances, may advance to even larger vessels in the arm.

There is no conclusive evidence that vascular spasm in these cases is a local vasomotor phenomenon. The effects of direct stimulation of the vasoconstrictor fibers and reflex vasomotor impulses are conveyed widely. The theory of a reflex mechanism responsible for the local changes presupposes a complex system of selective areas in the central nervous system which is not supported by any direct evidence. One can only conclude that the peripheral vessels in these cases are hypersensitive to local cooling and that the central nervous system takes no part in the reaction.

Experiments were devised to show whether the changes in the vessels were due to spasm alone or whether the vessels were principally the site of structural changes. Studies on pulse volume showed that in the milder cases the vessels were quite capable of expansion as the temperatures were increased. In the more severe cases, with loss of substance, the vessels were less readily opened by increasing increments of heat; but were almost as widely dilated at higher temperatures (from 40 to 45 degrees), as were normal vessels. There was very little circulation to the fingers until a temperature of about 30 degrees was reached, which corresponds to the changes in color which were found to occur at about the same point. It is obvious that the loss of substance in these cases at the tips of the fingers is secondary to long-sustained arrest of circulation in these parts. At ordinary room temperatures (under 30 degrees) the vessels are incapable of more than partial relaxation.

There was not enough evidence in our patients to show that the small superficial vessels in other parts of the body were sufficiently involved to lead to serious results. In patients where local necrosis has occurred at the tip of the nose or the tips of the ears or elsewhere, it may be assumed that the local vessels are also at fault.

It is well known that the depth of color in the fingers during attacks varies from a pale, waxy color to a deep violet tint. We were able to show that the depth of tint depended upon the amount of blood in the minute vessels at the time of onset of the attacks. Too much attention has been given to the symptom of pallor. It has no great significance, and is not an essential phase of the phenomena of attacks. In no instance where the attacks were observed from their onset, either spontaneously or experimentally induced, was the waxy or so-called "dead white finger" observed. This phase is artificial, and brought about by involuntary movements of the fingers during the onset of attacks, when the fingers are rubbed at the first appearance of sensation of cold in the parts; when tight gloves are worn; or under similar conditions which may remove the blood from the periphery. The original statement of Raynaud, which has since been frequently repeated in the literature, that the colors observed during an attack are at first white, then blue, and finally red in the stage of recovery, needs revision. The white stage is entirely artificial.

When blanching occurred in the affected parts, the minute vessels were shown to be in a state of contraction. Increase of venous pressure in the arm to 40 millimeters Hg produced cyanosis in the extremity to the areas of blanching. These slowly cleared if the pressure was maintained. If at any stage the pressure was released, the remaining blanched areas tended to remain so; and the hand on the opposite side continued in the blanched state. It would be difficult to explain these phenomena on the basis of central or vasomotor influences. The appearance of Bier's spots or local areas of blanching of skin, strongly suggest local spasm in smaller vessels. They appear in skin which has been deprived of all nerve supply.

STUDY OF INFLUENCE OF VASOMOTOR NERVES

Much is being written on the influence of vasomotor nerves upon spasm of the peripheral arteries in this and other diseases. There is no direct evidence that the vasoconstrictor impulses exert more than a tonic effect upon the muscles of the arterioles. While an interruption of the central impulses may remove to some degree the tone of the vessels, and does so in the normal individual, there is insufficient proof that it is a major factor in causing the symptoms of Raynaud's disease. Published reports on ramisection and ganglionectomy are inconclusive on this point. By relaxing the tone of the vessels the circulation to the part may be improved, and the resultant temperature may be elevated, requiring a greater amount of cooling to give local spasm of the vessels.

On several occasions we resorted to local anesthetization of the ulnar nerve during attacks. With the skin completely anesthetized over the area of ulnar distribution and the corresponding area of vasomotor dilatation outlined by hyperemia and other local effects—dryness, increased temperature, etc.—it was possible to initiate characteristic attacks by suitable methods. It may be assumed that the vasoconstrictor nerves pass to the extremity with the mixed nerves, and that they have no connections of any length in the sheaths of the vessels themselves.

These points, however, are not advanced as an argument against the practical value of ramisection, particularly in mild cases, as the removal of vasomotor tone might compensate for a partial loss of the local reflex mechanism.

On theoretical grounds it appears unlikely that all the possible vasoconstrictor connections to the brachial plexus should be severed to bring about vasomotor paralysis to the arm. One would not expect that the lesser connections through the first and second dorsal nerves would exert any great tonic action on the state of the vessels of the entire arm and hand. The proponents of such extensive surgical procedures have been swayed by the almost universal acceptance of Raynaud's view that the spasm of the vessels was due to nervous influences. One cannot state that the vasomotor influence can be ignored in considering this disease. Given proper conditions, the central impulses may turn the balance to decide the resultant effects in the extremities. This may be shown by experiments conducted in rooms of different temperatures. When attacks cannot be brought on in rooms at high temperatures, they may then occur if the room temperature is greatly reduced. The same results may be obtained if severe pain is produced. There is no direct evidence that this influence is any greater in a patient with Raynaud's disease than in the normal individual. Our view is that the defect in these cases is a local one, as has been amply demonstrated. The confusion which has existed from Raynaud's time respecting the vasomotor influences has been largely due to the inclusion of patients with general nervous phenomena in the group classified as "Raynaud's disease." We described one such case. We were unable to find any evidence of spasm in the retinal vessels, which is described in the literature, in this or in our other patients.

Before much further advance is made in the knowledge of this disease, it is necessary to carefully segregate the different types now vaguely classified as Raynaud's disease. In the type we describe, the condition of the digital arteries is peculiar. They show a direct reaction to low temperatures, with spasm accompanied by discoloration; and, eventually, nutritional changes appear in them. The relationship with local or general scleroderma and with local arthritic changes is not entirely clear, but it may be surmised that these latter conditions are secondary.

SUGGESTIONS FOR TREATMENT

Suggestions for treatment may be premature at this time. However, observations resulting from overcooling in the normal and in the group of cases studied are of interest. Our early failure to provoke attacks was due to a lack of appreciation of the mechanism of this reaction in our cases. In the normal individual an exposure to temperatures of from 0 to 10 degrees for several minutes results in a reaction which increases the circulation of the cooled part, and a consequent elevation of the temperature above that of the uncooled areas. This appears to be a normal biological protective mechanism. In the milder cases, without loss of tissue, the mechanism is but slightly altered, but in the advanced cases, with local necrosis, there is little or no reaction to overcooling. The color may become red, but the temperature of the skin follows closely the room temperature. The normal reaction persists for an hour or more, with the part at rest, but may be more prolonged if the individual is actively moving about. In one of our more severe cases the circulation in one hand seemed improved over its fellow during repeated exposure, and persisted after the treatment was stopped. In another instance the treatment was discontinued because of pain accompanying the treatment.

Since our observations were published, the author has had an opportunity to study other patients showing milder degrees of severity, where one might expect to obtain better results from treatment. In them exposure of one hand to temperatures between 4 and 10 degrees would keep this hand red and warm and free from attacks, whereas the untreated control hand would show repeated attacks. It would seem advisable to avoid pain if the patient is to coöperate in treatment. The treatments should probably be given two or three times a day. They may at first be given and followed by gently warming the part in water or by placing the hand against a warm part of the body. Showers or tub baths with water at gradually lower temperatures may also be instituted.

SUGGESTED PLAN OF TREATMENT

A suggested plan of treatment is as follows:

First Week.—One hand or foot, preferably the one more seriously affected (companion as control), immersed in water at 10 degrees centigrade three times a day for ten minutes. Severe pain or faintness to shorten period of exposure, or time for reducing temperature.

Second Week.—Temperature reduced to eight degrees.

Third Week.—Temperature reduced to six degrees.

Fourth Week.—Temperature reduced to five degrees.

Fifth Week and Thereafter.—Temperature reduced to four degrees.

It is to be understood that this outline is merely suggestive. When quite certain that beneficial results are being obtained, shower or tub baths of decreasing temperatures may be instituted. If possible, treatments should be started before cold weather begins. The effects of the reëducation of the reaction to cooling may be studied, by following the surface temperatures, with the thermocouple under control conditions. Contrast baths may be used at first if desired.

Results of treatment in patients with Raynaud's disease, scleroderma and hypertrophic arthritis suggest that the principles outlined above may have a wide application. This method may also be used in the treatment of chilblains. The value of the empirical use of cold baths in the prevention of the common cold may well be due to the stimulation of this reaction as a protective mechanism against cold. The common cold may be found to be primarily a failure of this mechanism. Studies with this possibility in mind are being undertaken.

SUMMARY

A variety of Raynaud's disease has been studied. It is the form in which the digits become periodically pale or cyanotic, and in which, after several or many winters of repeated attacks, terminal portions of the digits may be lost by a process of slow, dry gangrene.

The circumstances in which attacks appear and disappear have been carefully observed. In mild cases there is but slight variation from the normal; but in severe cases the fingers slavishly follow the environmental temperature. These fingers do not react to overcooling as readily as do normal fingers, and are the ones which develop local gangrene.

The immediate cause of the defective circulation is spasm of the digital arteries. These vessels in the milder cases are capable of full expansion, and nearly so in the severe cases.

The meaning of the various discolorations, cyanosis, pallor, reddening that are displayed is discussed.

Local applications of heat and cold show that the spasm is profoundly influenced by temperature, in response to which the vessels behave abnormally. These observations are contrary to what would be expected if the current views ascribing the spasm to vasomotor influences were true; the abnormal element in the reaction to cold is a direct reaction, and is due to a peculiar condition of the vessel wall locally; it is not the result of a reflex action through the vasomotor nerves. The state of vasomotor nerves naturally influences the tone of the vessels in these patients, as it does in normal people; but the pathological element in the vascular spasm is not of central nervous origin, as at present it is generally thought to be. The effects of interfering with the nerves to the affected parts, by local anesthesia or by surgical division, are briefly discussed.

Suggestions for a rational treatment are given on the basis of original observation, and results achieved on a limited number of cases are mentioned. Further studies are being made in this direction. Certain frequently associated conditions are mentioned, and the application of this method of treatment to these and other disorders is proposed.

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DISCUSSION

C. Latimer Callander, M. D. (450 Sutter Street, San Francisco).—Much that is commendable might be said about many of the phases of Doctor Kerr's work as outlined in this splendid paper. To a few points I would like to draw attention.

Doctors Kerr and Lewis, like so many English investigators, have utilized simple apparatus and easily controlled methods in the pursuance of their problem. Furthermore, they have chosen for their work Raynaud's disease, for which they had plenty of clinical material available. In London, where the weather is severe, there must be many more cases at hand and their symptoms must be more pronounced than occurs in California, where a true Raynaud's syndrome, in my experience, is unusual.

It is interesting that these investigators have spent little time discussing the so-called ischemic stage in this condition (pallor symptom). It seems reasonable that this is a phenomenon secondary to rubbing and clenching of the parts in an effort to lessen the discomfort. It is rare to see Raynaud's disease where the ischemic stage is a significant sign.

Doctor Kerr has noted only a slight hyperthermic reaction to overcooling in advanced cases, while he finds a very definite increase in temperature in the early cases. We have noticed that the affected extremities of patients with advanced Raynaud's disease become less hyperemic after the immersion of the part into the cold water of the contrast bath than is manifested in patients in the early stages of the lesion.

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Henry H. Lissner, M. D. (Roosevelt Building, Los Angeles).—In reading Doctor Kerr's paper on Raynaud's disease one is impressed by the careful experimental methods employed and their easy application to the clinical phenomena of the disease.

For many years investigators have discussed the pathologico-anatomical situation of Raynaud's syndrome, and while there is much to be said in favor of arterial disease in the experimental data presented, sufficient evidence is not available to justify the conclusion of definite arterial change to the exclusion of the vasomotor influence, especially that of a sympatheticotonia.

A sympathetic nervous system imbalance from the standpoint of the vasomotor control is evidenced in many conditions which, while they are allied or considered with Raynaud's disease, do not present the same clinical picture. Demographia, erythromelalgia, scleroderma, arthritic changes, and blushing or paling in their physiological aspects seem to bear a definite relationship to some of the clinical phenomena found in sympathetic imbalance. Just as every allergic reaction does not produce asthma but may cause numerous other manifestations in various organs of the body, so vasomotor disturbances need not always work on the terminal arteries causing the Raynaud's syndrome.

When one considers the frequency of arterial disease met with in the ordinary course of the practice of clinical medicine, and the infrequency of the occurrence of Raynaud's disease associated with it, the question of climatic conditions, *i. e.*, continued cold or rapidly changing temperatures, must be considered to play an important etiological rôle through the nervous regulatory mechanism for the control or maintenance of the normal heat regulation.

As a matter of fact, Doctor Kerr admits in his experiments that exposure of normals does show that a nervous mechanism controls the arteries and argues that "The vessels were less readily opened by increasing increments of heat, but were almost as widely dilated at higher temperatures (from 40 to 45 degrees) as were normal vessels." From this observation it may be deduced that the spasm is not relieved as readily under the influence of an unstable nervous system as in a stable one, since the end result is a vessel of the same size in disease as in the normal, with practically the same reaction.

The theory that a lesion of the peripheral arteries may account for the symptoms of Raynaud's disease finds many supporters. Certain anatomical findings have been cited as strong arguments by those who believe such lesions to be irrefutable evidence as opposed to pure theory.

Up to the present time, reported organic alterations in the vessels will not suffice to explain the symptoms any more satisfactorily than the theory of a central nerve affection of the sympathetic system.

Until more experimental data are offered which will more definitely remove this question from the realm of hypothesis, and which will consider intrinsic and extrinsic etiological factors, I will retain the opinion that sympatheticotonia has a great influence on the causation of Raynaud's disease.

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William H. Barrow, M. D. (1400 Medico-Dental Building, San Diego).—The painstaking and carefully controlled experimental work on the effects of heat and cold stimuli in Raynaud's disease as reported by Doctor Kerr in this paper is an interesting and valuable contribution to the literature on the subject. It has been generally accepted in the past that Raynaud's disease was a manifestation of a "neurovascular diathesis" due to a sympathetic nervous system imbalance on perhaps a "neuro-endocrine basis." It has been felt that angioneurotic edema, scleroderma, intermittent claudication, erythromelalgia, certain forms of arthritis and other "vasomotor-trophic" disorders were closely allied etiologically. It has been recognized for some time that in the advanced cases of Raynaud's there were capillary changes and deformities, but it has also been believed that the disease was a generalized disorder and not due purely to local changes in the vessel walls as is Doctor Kerr's conclusion.

I saw recently a patient with Raynaud's disease, her symptoms and physical findings fitting the description of the disease as given by Doctor Kerr. I am reporting the case because it presents manifestations of the disorder which it would seem can only be explained on the basis of a generalized sympathetic nervous system imbalance. It is of interest that this patient's symptoms appeared with a change of environmental factors that subjected her to considerable psychic stress, and she reported that she was worse at times of particular nervous tension. She was subject to attacks of paroxysmal hematuria, having been cystoscoped at one time for this symptom with negative findings. She had had attacks of acute abdominal pain not entirely relieved by an operation for postoperative adhesions, and best explained perhaps by spasm of abdominal vessels. Her hands and feet were involved, the latter showing impending gangrene. At the time of her attacks of local syncope the radials were small in volume and the dorsalis pedis arteries did not have a palpable pulsation. This patient's feet often presented a waxy pallor of the distal parts, or of one or more toes or of disseminated patches when they had not been rubbed or manipulated or constricted. Usual medical measures, such as contrast baths, woolen stockings, local applications, massage, and sedatives, failing to give relief, she submitted to bilateral lumbar and later cervicothoracic ganglionectomies with a resultant restoration of normal circulation in her extremities. She has, however, had a recurrence of the hematuria and the abdominal pain. This patient was and still is subject also to attacks of angioneurotic edema.

Rountree and Ghrist recently reported some interesting observations on surface temperatures in normal subjects and in subjects with peripheral vascular disturbances as affected by the oral ingestion of ice water, indicating definite changes associated with the "pressor response to stimulation of the sympathetic nervous system," which response was, of course, no longer in evidence after ganglion resection.

In contradistinction to the suggestion in this work and in the case reported of the generalized nature of the vasomotor disturbance, an interesting case was recently reported by Cotton and Berg of a laundry worker who developed typical symptoms of Raynaud's disease in the thumb and index finger of the right hand, which had been traumatized by the constant sticking of pins into shirts over a period of years. Earlier involvement of fingers of the other hand indicated that the disease was a true Raynaud's and not a traumatic angitis. But the trauma had undoubtedly precipitated the manifestation of the disease in this part. Incidentally, this patient was relieved by vaccine shock. She also was reported as showing evidence of sympathetic instability, with a history of "goiter," and an exaggeration of the vasomotor as well as the deep reflexes.

It would seem that there may well be in this condition a combination of a central vasomotor imbalance with pathological changes in the peripheral vessels, the one reacting on the other. Such a combination probably exists in essential hypertension and is certainly possible in Raynaud's disease. The significance of the original work done by Doctors Kerr and Lewis cannot be denied, but there are certain clinical and experimental observations which do not seem to be clearly correlated with their hypothesis that the disorder is due entirely to a peculiar local condition of the peripheral vessel walls which causes the abnormal reaction to cold.

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Doctor Kerr (Closing).—There is very little to add to what has already been presented in the body of this report. It is not the intention of the author to imply that there is any pathological lesion in the peripheral vessels in Raynaud's disease. The disturbance is essentially a physiological one which, if continued, will eventually result in local gangrene of the tips of the extremities. The vasoconstrictor impulses apparently act in maintaining the tone of the peripheral vessels, but play no rôle in the production of phenomena which we group under the term of "Raynaud's disease."

DIVERSION OF THE URINARY STREAM BY URETERAL TRANSPLANTATION—ITS INDICATIONS AND ULTIMATE RESULTS*

REPORT OF CASES

By Charles Pierre Mathé, M. D.
San Francisco

Discussion *by H. A. Rosenkranz, M. D., Los Angeles; Robert V. Day, M. D., Los Angeles.*

Diversion of the urinary stream by transplantation of the ureters into the skin, intestines, vagina, or urethra in incurable congenital and acquired malformations and lesions of the bladder relieves the inexpressible misery that these patients suffer, alleviates symptoms, lessens invalidism, and prolongs life. Unfortunately, the operation of ureteral transplantation is not performed early enough and these patients become progressively worse and finally die, not from the original bladder lesion, but from urinary stasis, sepsis, and uremia.

The indications for ureteral transplantation are extrophy of the bladder, extensive incurable bladder fistulae, malignant growths of the bladder and female adnexa involving the ureters, causing strangulation, incurable tuberculosis of the bladder, and incurable interstitial cystitis with formation of ulcers described by Hunner. Ureteral transplantation should only be performed as a last resort when all other therapeutic and surgical methods have failed to relieve the pathological lesion of the bladder or uterus. The patient is often a poor risk, having been weakened by months or years of suffering and by toxemia, and debilitated by lowered kidney function due to back pressure. Ureteral transplantation into the urethra and vagina is impractical in most cases because of the impossibility of securing a stump of sufficient length. The perfected operation of transplantation into the sigmoid gives excellent results, but is too extensive in extremely debilitated patients and still carries a high mortality. It is ideal for those patients suffering from extrophy in whom there were usually few renal complications. Transplantation of the ureters into the skin of the lower abdomen is simple, rapid and benign, and is an operation devoid of shock, which is well supported even by cachetic and debilitated persons. It also has the advantage of allowing for recognizing, studying, and caring for subsequent renal complications.

HISTORICAL NOTE

In 1869 Simon[1] accidentally cut the left ureter during the operation of ovariotomy and fixed the ureter to the skin of the abdominal wall. Later, in order to relieve the resultant fistulae, he performed a nephrectomy. Deliberate transplantation of the ureter into the skin was proposed by Hayes-Agnew[2] in 1881 and performed for the first time by Laurenze[3] in Rome in 1888, but the details of the operation and the clinical course of the patient are lacking. In 1889 Le Dentu[4] purposely implanted the ureter into the skin of a patient suffering from metastases of a cancer of the uterus which had involved the left ureter, and which had caused anuria of seven days' duration. The operation was successful inasmuch as the patient was relieved from urinary back pressure, but death occurred some thirteen days later from generalized carcinomatosis. Two years later Pozzi[5] accidentally severed the ureter in removing an enlarged, adherent pelvic tumor. He transplanted the ureter into the skin of the lumbar region, but performed a nephrectomy some three months later to relieve the urinary fistula. The kidney in question was carefully studied by Albarrán,[6] who noted that the organ was very little damaged, presenting only the phenomena of slight back pressure and a mild degree of pyelonephritis and very slight alteration of the parenchyma. The operation was later performed for incurable bladder lesions by Albarrán,[6] Giordano,[7] Zuckerkandl,[8] and Frank.[9] Leguen and Papin[10] made numerous experiments on animals and cadavers in order to perfect the operation and made a detailed report in 1921, including nine ureterostomies on human beings. Following this, successful results were obtained by Huc,[11] Duvergey,[12] Day,[13] Rosenkranz,[14] and Ormond.[15] In 1925 I had the privilege of hearing Papin[16] de-

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* From the department of urology, Saint Mary's Hospital, San Francisco.

* Read before the Urological Section of the San Francisco Medical Society October 29, 1929.

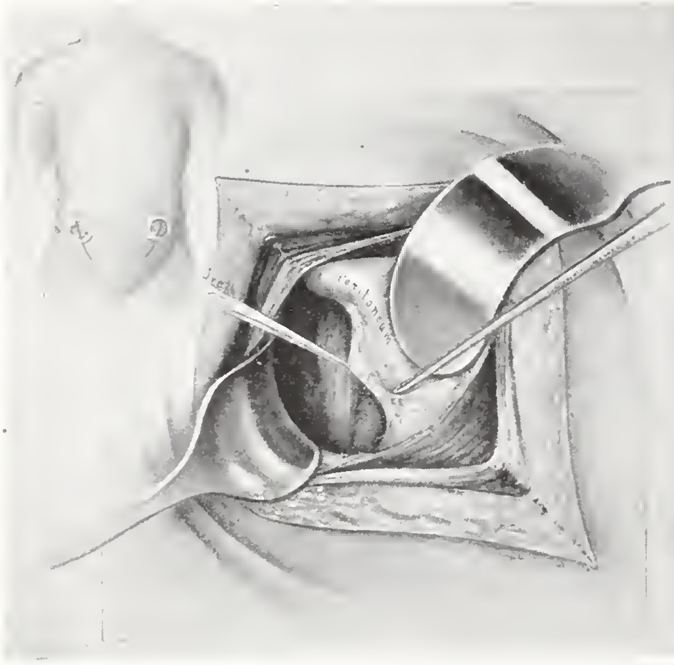

Fig. 1.—Ureterostomy into the skin. The ureter is freed from the posterior peritoneum by blunt dissection, care being exercised not to traumatize the ureter in order to avoid necrosis. Note ideal area of transplantation in the iliac portion of the lower abdomen in insert of upper left-hand corner.

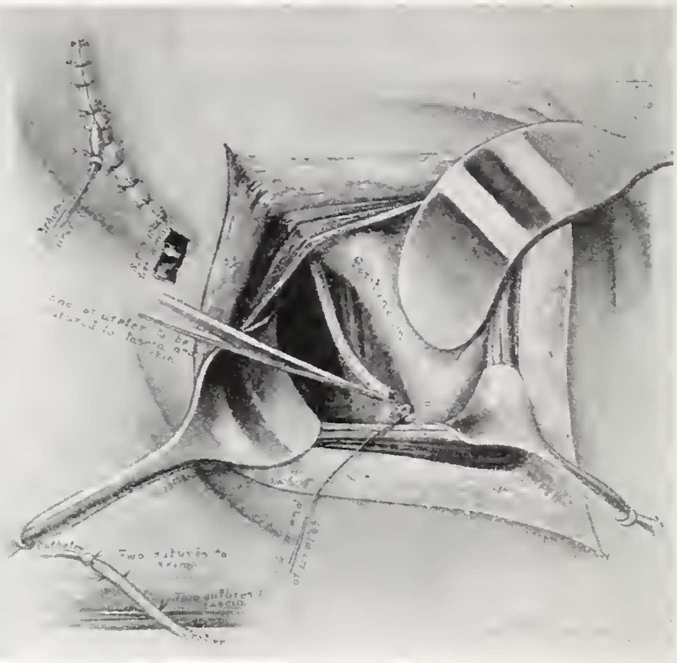

Fig. 2.—Resection and division of ureter close to bladder. The ureter is implanted into the skin in such a manner that it will make a downward curve at a radius leaving no kinks, thus assuring good drainage.

liver his masterful address on high diversion of the urine before the French Urological Association, in which he made an extensive review of the literature to date and proposed a simple, safe method of ureterostomy into the skin of the lower abdomen.

Having diverted the urinary stream successfully in six consecutive patients who presented hopeless bladder lesions, I herewith present my cases:

REPORT OF CASES

Case 1.—*Incurable advanced interstitial cystitis. Ureterostomy (left). Operative and clinical cure.* Mrs. E. M., hospital number 15747, school teacher, age forty-three, entered Saint Mary's Hospital April 18, 1921, suffering from chronic interstitial cystitis accompanied by Hunner's ulcer, and right-sided hydronephrosis secondary to ptosis and kinking of the ureter. The ulcers were repeatedly fulgurated and the bladder dilated under gas and oxygen anesthesia with only temporary relief. In 1923 two linear ulcers in the fundus of the bladder were resected, which operation was followed by one year's relief from symptoms. Some thirty-seven fulgurations and dilatations of the bladder under anesthesia were performed in all. During my sojourn in Europe in 1925 the patient received no medical aid, and on my return I found that the pathologic condition in the right kidney had entirely destroyed that organ, resulting in pyonephrosis. At this time the patient was extremely emaciated and literally living on a bedpan, suffering excruciating pain, was almost constantly under the influence of morphin, and was unable to carry on her occupation of school teacher. On April 12, 1926, right-sided nephrectomy was performed; and on May 7, 1926, in spite of sepsis and hastening anuria, the left ureter was transplanted into the skin of the left lower abdomen. The bladder atrophied and caused no further trouble. The patient now wears an apparatus which catches the urine as it drains out through the opening of the ureter into the skin. No retention catheter is worn. She has gained thirty pounds in weight and enjoys perfect health and has taken anew her useful occupation in the community, consisting of teaching mentally deficient children.

Case 2.—*Huge vesicovaginal fistula. Bilateral ureterostomy. Operative and clinical cure.* Mrs. J. P., hospital number 46250, housewife, age fifty, entered Saint Mary's Hospital May 16, 1927, complaining of incontinence of urine, pain in the abdomen, and loss of weight. The patient had previously had a radical operation for carcinoma of the uterus. Following the operation she received considerable deep x-ray and radium therapy. Two years later she developed continual leakage of urine from a vesicovaginal fistula, accompanied by attacks of hematuria and of sharp pain in the right kidney. Cystoscopic examination revealed a large necrotic mass in the base of the bladder which had eroded the trigone, a portion of the neck and the anterior vaginal wall, forming a fistula whose diameter was approximately 1.5 centimeters. On June 3, 1928, bilateral ureterostomy was performed, the ureter being transplanted into the skin of the lower abdomen on both sides. Because of the severe infection of the kidneys, the pelves were irrigated three times a week with mercurochrome 1:2000, alternating with rivanol 1:4000. The patient tolerated ureteral catheters, which were placed in a suitable apparatus which catches the urine as it drains away. On August 20, 1929, 35 per cent phthalein was collected from the right kidney and 20 per cent from the left in one-half hour after being injected intravenously. Previous to the operation nephrectomy was contemplated on the right side because of weakened function, but due to relief afforded by ureterostomy it had entirely returned. She regained her weight and strength and is now enjoying a comfortable existence two and one-half years after operation.

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Case 3.—*Incurable advanced interstitial cystitis. Bilateral ureterostomy. Operative and clinical cure.* Mrs. L. H., hospital number 56116, housewife, age fifty-six, entered Saint Mary's Hospital February 4, 1929, complaining of painful and frequent urination of fifteen years' duration. She had received considerable treatment, consisting of fulguration, dilatation of the bladder under anesthesia and radical resection of Hunner's ulcers, without relief. Examination revealed a bladder presenting the typical picture of interstitial cystitis with ulcer formation having a capacity of 70 cubic centimeters. On February 11, 1929, a bilateral ureterostomy into the skin of the lower abdomen was performed. A small abscess developed in the lower portion of the right incision, eroding the lower portion of the ureter. Aside from an occasional attack of pyelonephritis, which is readily relieved by pelvic lavage and the administration of urinary antiseptics, the patient enjoys good health, has regained her strength and weight, and is able to perform her duties as housewife.

* * *

Case 4.—*Incurable vesical tuberculosis. Ureterostomy of double ureter. Operative and clinical cure.* Mr. J. F., hospital number 50657, automobile mechanic, age thirty-seven, entered Saint Mary's Hospital March 14, 1928, with caseocavernous tuberculosis of the right kidney, with complete closure of the ureter on that side and advanced tuberculosis of the bladder with ulcer formation. A right-sided nephrectomy was performed on March 19, 1928, and the wound healed by primary intention. The bladder symptoms, however, persisted, consisting of frequent painful urination, incontinence, hematuria, and pain in the region of the bladder. On November 10, 1928, a granular mass was fulgurated in the bladder, liberating a large amount of pus from an abscess of the bladder wall. On March 7, 1929, the tuberculous cystitis resulted in further contraction of the bladder, involving the left ureter in the inflammatory process and causing definite constriction and obstruction. It was impossible to pass the finest filiform past this obstruction when efforts were made to relieve the patient from acute hydronephrosis on that side. On March 13, 1929, ureteral transplantation into the skin of the lower abdomen was made. Double ureters were encountered which measured, respectively, 4 millimeters and 1.2 centimeters in diameter. Both were found to be very narrow where they passed through the bladder wall, and 120 cubic centimeters of urine was collected from the mesial ureter and 30 cubic centimeters from the smaller lateral ureter which communicated with dilated calices in the pelvis. The patient made an uneventful recovery and is able to retain retention ureteral catheters in both ureters which drain into a suitable apparatus. He has returned to Italy to visit his relatives and is enjoying good health.

Case 5.—*Vesical carcinoma. Bilateral ureterostomy and cystectomy. Operative cure. Death nine months later from metastases.* A number of years ago, with Dr. F. Hinman, I performed a bilateral ureterostomy at the San Francisco Hospital on a patient having an inoperable carcinoma of the bladder. The immediate result was good, inasmuch as intolerable incessant tenesmus and urinary back pressure and stasis was relieved. A cystectomy was performed later and although the patient died some nine months later from metastases he had been relatively free from pain during that time.

* * *

Case 6.—*Huge hydronephrosis secondary to incurable cystitis and ureteritis. Nephrostomy (first stage) clinical relief.* Mrs. M. H., hospital number 40429, housewife, age sixty-three. On May 21, 1926, a right-sided ureterolithotomy was performed. On September 15, 1926, a left-sided ureteronephrectomy was made for pyonephrosis, ureteral stone, and ureteritis, with complete closure of the ureter. Following these operations she regained health and strength. Three years later she developed characteristic symptoms of advanced rebellious cystitis and hydronephrosis of the solitary kidney, and in spite of repeated dilatation of the bladder and ureter, under anesthesia, the bladder contracted to 30 cubic centimeters, constricting the lower portion of the right ureter. On June 3, 1929, a right-sided temporary nephrostomy was performed, as a preliminary step to ureterostomy. The patient received such benefit from nephrostomy that ureteral transplantation has been postponed to a later date.

INDICATIONS

Indications for ureteral transplantation are advanced interstitial cystitis, intractable bladder tuberculosis with contracture, extrophy, huge vesical fistulae and malignant growths of the bladder and uterus, involving the ureter.

In interstitial and tuberculous cystitis one should attempt to relieve the condition by all the modern methods of treatment at our command,

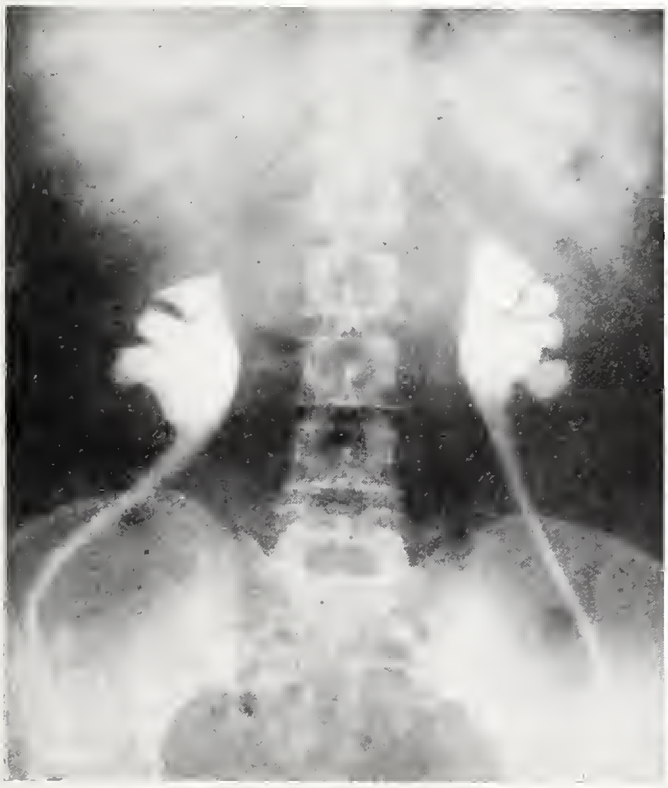


Fig. 3a (Case 2).—Bilateral ureteropyelogram made through ureterostomy opening. Horizontal position. Female, age 50, with huge vesicovaginal fistula.

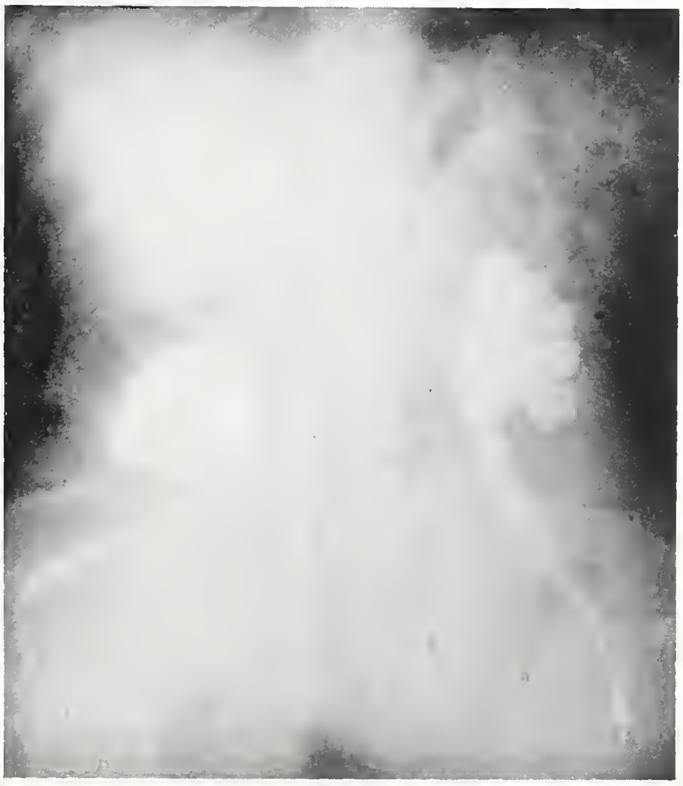


Fig. 3b.—Dorsal position. The function of the right kidney has returned; from a trace of phthalein to 35 per cent in one-half hour (after urinary drainage was established by ureterostomy).

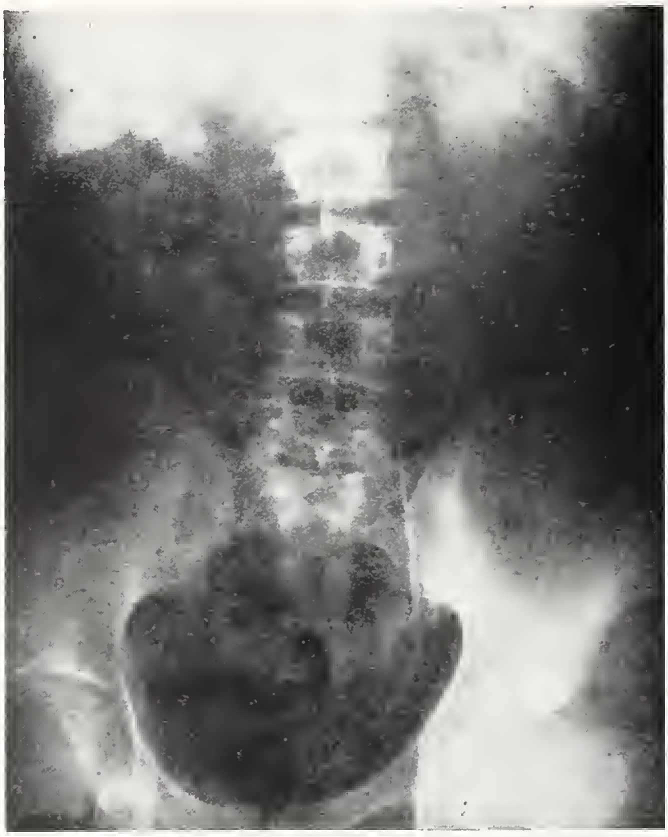


Fig. 4a (Case 4).—Bilateral plain röentgenogram. Male, age 37, with huge caseocavernous tuberculosis of right kidney. Nephrectomy (right), with persistent bladder symptoms.

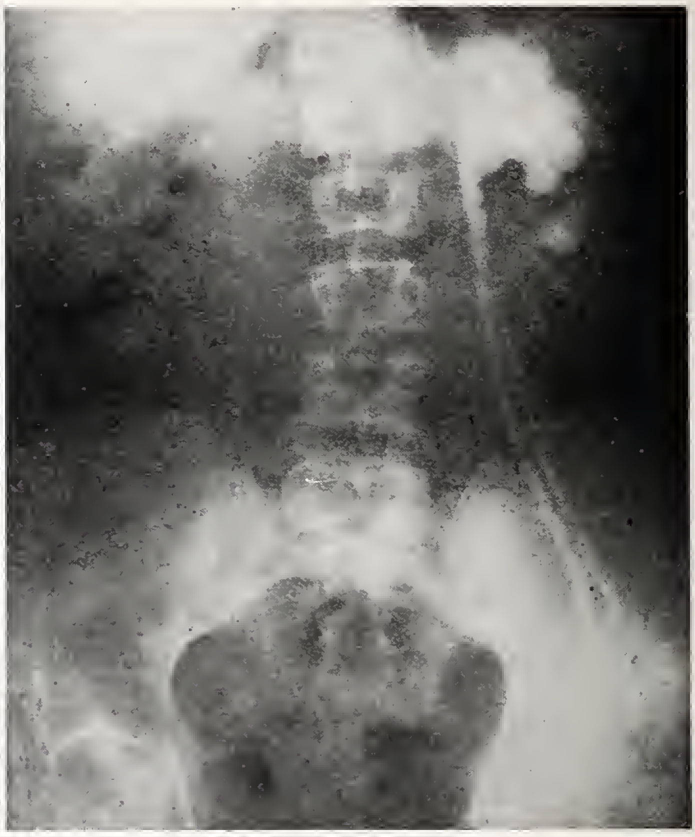


Fig. 4b.—Ureteropyelogram taken through ureterostomy opening, showing bifid pelvis. Note hydronephrosis of upper pelvis, and perfect drainage through both ureters after operation.

viz., dilatation of the bladder under anesthesia, light fulguration of the ulcers, irrigation of the bladder with antiseptic solutions, rest, regimen, and heliotherapy. In ulcers of the Hunner type, occasional relief is obtained by radical resection.

When these measures have failed and the bladder is contracted down so that it contains less than 50 cubic centimeters of urine, it may be assumed that the inflammatory processes involve and cause the intramural portion of the ureter to be constricted, resulting in back pressure, stasis, hydro-ureter, and hydronephrosis. With stasis comes infection and the patient rapidly goes downhill and dies, not from the original lesion in the bladder, but from urinary sepsis, stasis, and uremia. Diversion of the urinary stream relieves the back pressure and puts the bladder at rest; which usually atrophies and causes no further trouble (Willems,[17] Legueu,[18] Hinman [19]). In these cases one should not wait too long and one should intervene before the hydronephrosis has gone on beyond repair. This is well exemplified in the following case:

Mrs. S., age sixty, was referred by Dr. B. A. Mardis for urological investigation, because of repeated attacks of hematuria, urinary retention, frequency, painful urination, and pain in the region of the right kidney. She had had considerable treatment, consisting of renal lavage, removal of a urethral caruncle and dilatation of the bladder, with no relief. Examination revealed interstitial cystitis with a linear ulcer extending from one orifice to the other in the fundus of the bladder. In spite of repeated treatments, consisting of dilatation of the bladder and light fulguration of the ulcer under anesthesia, the bladder contracted to a capacity of 30 cubic centimeters. As the bladder contracted, symptoms of hydronephrosis developed in both kidneys. The kidneys became enlarged to such an extent that they could be easily palpated. Ureteral transplantation was strongly advised but was refused by the patient. Ten days later this patient developed anuria, terrific pains in both flanks, chills, fever, and extreme prostration, and died in uremia. There is no question that if this patient had submitted to ureteral transplantation she would be living today and enjoying the health of the other patients reported in this series.

Malignant tumors of the bladder and uterus often involve one or both ureters, causing compression and strangulation. In these cases which are more or less advanced the patients are suffering from urinary back pressure, are cachetic and debilitated. Ureteral transplantation into the skin takes care of drainage of the urine and permits the surgeon to attack the growth by destructive doses of radium or deep x-ray therapy. When feasible the bladder can later be removed *in toto*. Transplantation into the sigmoid as perfected and performed by Coffey,[20] although it gives excellent results, still has a mortality, even in the most skilled hands, because the operation is too extensive and difficult in profoundly cachetic patients. In presenting ureteral transplantation as the "question mise à l'ordre du jour" before the French Urological Association in 1925, E. Papin[16] reviewed all the cases of transplantation into the sigmoid performed up to and including 1925 and reported a mortality of 50 per cent. Chute [21] reports an equally high mortality, and Hinman in discussing Dr. R. Coffey's paper on "Ureteral Transplantation," delivered before the 1928 meeting of the California Medical Association at Coronado, stated that his mortality was over 50 per cent. In large bladder fistulae where also there has been extensive destruction of the bladder and surrounding structures, ureteral transplantation is also indicated. In congenital malformations such as extrophy, one usually sees the patient early in life, when he is an excellent risk for the more radical operation of transplantation into the sigmoid. I feel that in these patients transplantation into the bowel is ideal, gives excellent results, and because of the resistance of the patients can be performed with very little mortality.

OPERATIVE TECHNIQUE

In order to perform this operation successfully one must exercise extreme gentleness in handling the ureter, in order to avoid necrosis. One should also implant the ureter in such a manner that it will make a gradual downward curve at a radius leaving no kinks, lessening the likelihood of stricture formation either of which would cause back pressure and result in hydronephrotic atrophy of the kidney, and favor ascending infection. The ideal area to transplant the ureter is in the skin of the iliac portion of the lower abdomen in a position midway between the inguinal and lateral positions see Fig. 6 (Case 2). This area, properly chosen, facilitates the patients' care of the fistulae, passage of ureteral catheters, and the placing and caring for the collecting apparatus. When both ureters are transplanted the incisions and points of exit of the ureter should be symmetrical. The abdominal muscles are incised and the ureter is identified where it is attached to the posterior peritoneum and crosses the iliac vessels. It is seized with very fine forceps and freed from the peritoneum by the aid of a groove director. It is ligated as close to the bladder as possible and sutured to the fascia and skin in the central portion of the skin incision in such a manner that it will make a gradual downward curve, leaving no kinks or strictures in the ureter. The muscles and skin are then approximated in the usual manner, a soft rubber tissue drain being inserted in close proximity to the stump of the ureter near the bladder and brought out through the lower end of the incision. This drain is necessary to avoid the formation of a small hematoma which probably would become infected, resulting in an abscess that might erode the lower portion of the transplanted ureter. An 8 or 12 (Charriére) ureteral catheter is left in place in order to overcome anuria resulting from postoperative congestion and edema of the lower ureter.

In the most desperate cases presenting advanced back pressure in the kidneys, nephrostomy should be performed as a preparatory measure to subsequent ureteral transplantation. Temporary nephrostomy should be employed in preference to permanent nephrostomy since in the later operation the organ is more likely to become badly infected, developing areas of necrosis in the kidney substance which can be of considerable size. This procedure consists of placing a Malécot catheter into the lower major calyx. A curved hemostat is introduced through a pyelotomy incision and forced through the parenchyma of the kidney. The catheter is then grasped and placed into the most dependent portion of the pelvis by withdrawing the hemostat. It is brought out through the lumbar incision and left in place for

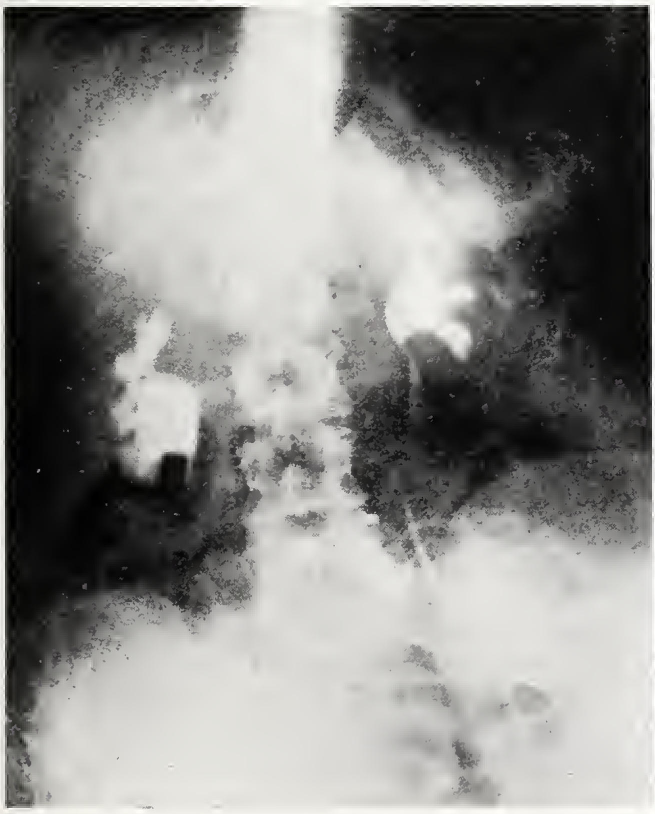


Fig. 5a (Case 3).—Bilateral ureteropyelogram of a female, age 56, suffering from incurable advanced interstitial cystitis. Note bilateral hydronephrosis, due to contracted bladder pressing on lower ureters.

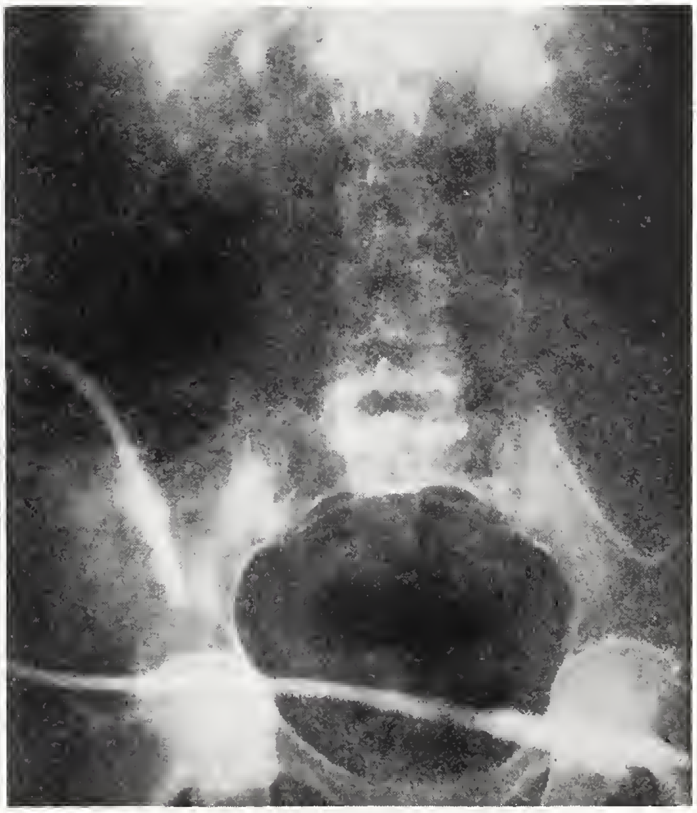
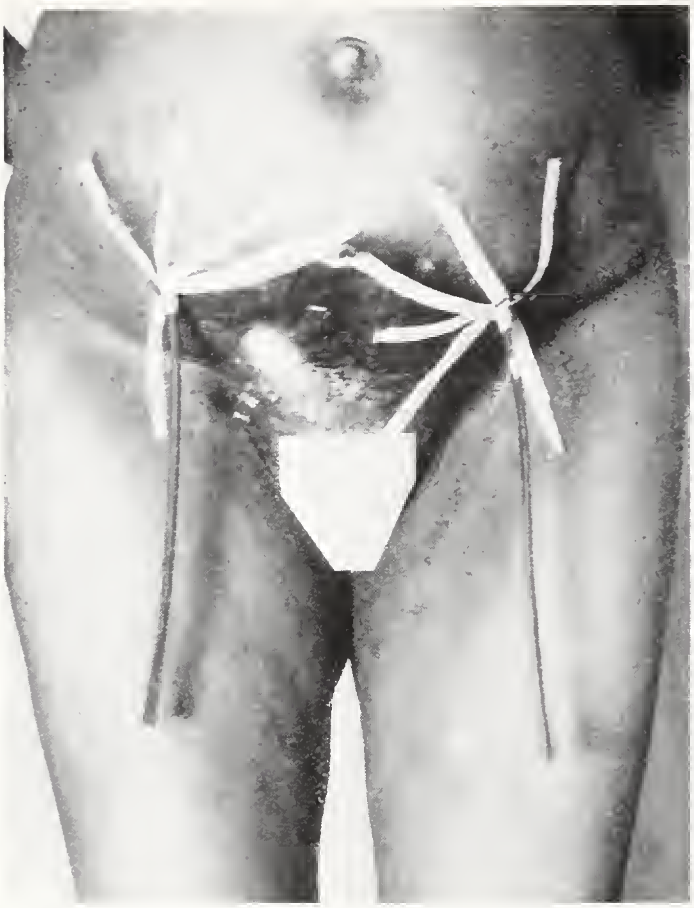


Fig. 5b.—Ureteropyelogram taken three months after ureterostomy. Note arrest of hydronephrosis of left kidney. Infection of lower portion of wound on right side has formed a small pocket which prevents the ascent of the large rubber catheter into the pelvis. (To be repaired surgically at a later date.) Complete clinical relief of symptoms.



Figs. 6 (Case 2).—Permanent ureteral catheters (No. 14, Charrière) fastened in place with adhesive strips. These are very well tolerated and are changed and cared for by the patient.

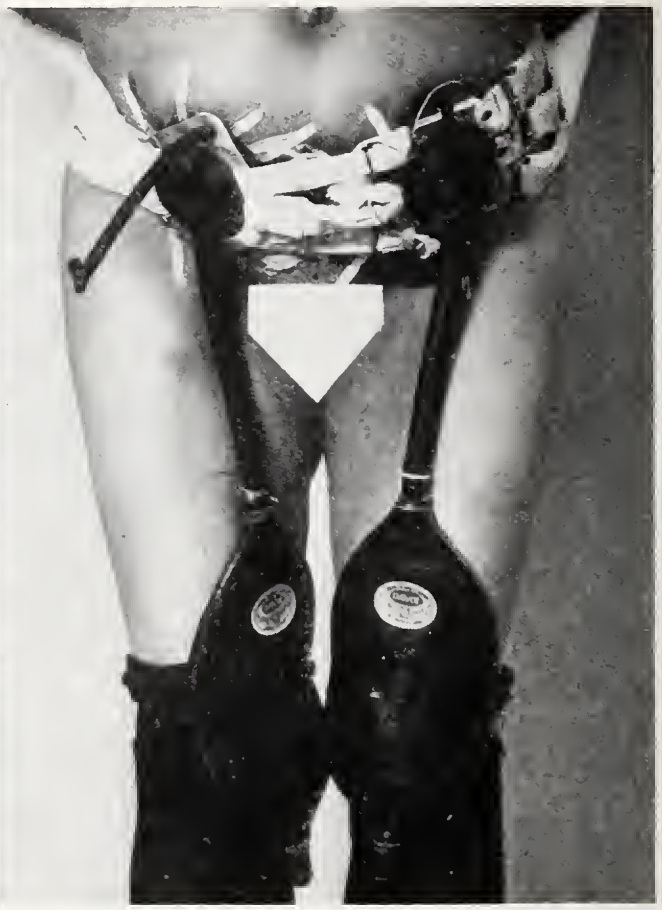


Fig. 7 (Case 2).—Apparatus in place in which the catheters drain. It functions perfectly, there being no leakage of urine. The patient is devoid of any foul odor and is able to do her housework.

two weeks during which time repeated lavages of the pelvis are made with antiseptic solutions. It relieves the pressure in the kidney and assures lumbar drainage of urine, allowing the lower ureter to heal. It reduces the possibility of obstruction and early ascending infection due to edema during the first days after the operation. One is greatly impressed by the relief afforded by the preliminary nephrostomy, which is as great and grateful as that afforded by cystotomy in a prostatic patient suffering from complete urinary retention and sepsis.

POSTOPERATIVE TREATMENT AND AFTER-CARE

At the time of operation, ureteral catheters are left in the ureter to assure urinary drainage during the first few days after the operation, that being the time when congestion and postoperative edema might occlude them. They should be changed every three days and the pelvis lavaged with antiseptic solutions daily. On about the seventh to the tenth postoperative day acute ascending pyelonephritis often takes place. It is usually ushered in by a chill, followed by fever, and accompanied by malaise, pain in the kidneys, and toxemia. It usually subsides but recurrent attacks may occur later, particularly when the drainage through the ureteral catheters is blocked. Some patients tolerate permanent ureteral retention catheters very well. The catheters are drained into an apparatus and are changed every three days. Other patients wear the apparatus without retention ureteral catheters, the urine draining directly into the apparatus. In the latter group of patients one should progressively dilate the artificial meatus in the skin at least once a week in order to prevent stricture formation, which would favor ascending infection. The patient is instructed to sterilize, change and pass the ureteral catheters, perform renal lavage at stated intervals, and care for the apparatus.

ULTIMATE RESULTS

The immediate results of ureterostomy into the skin of the lower abdomen are excellent, inasmuch as stasis of the upper urinary track is relieved, permitting the repaired kidney to recover its functional power. One is surprised to note that the kidney above the transplant is damaged to a very slight degree indeed, presenting only the phenomena of slight back pressure with a mild degree of pyelonephritis and very slight alteration of the parenchyma. The patient regains his weight and strength and is converted from a hopeless bedridden invalid into an active citizen able to return to his particular walk in life. The ultimate results are equally as good, inasmuch as very little difficulty is encountered in educating the average individual to care for his catheters, apparatus, and to perform pelvic lavage. Furthermore, subsequent complications and renal diseases can be readily recognized, studied by the usual diagnostic methods in vogue, and cared for by the proper methods. All patients express profound appreciation for this beneficent operation which, as an act of mercy, has relieved the insupportable suffering and misery, and prolonged life.

CONCLUSIONS

1. Diversion of the urinary stream by transplantation of the ureters into the skin of the iliac region of the lower abdomen is indicated in extrophy of the bladder, extensive bladder fistulae, malignant growths of the bladder and uterus involving the ureters, and incurable interstitial and tuberculous cystitis, with or without ulcer formation.

2. Patients suffering from the above diseases often die, not from the original lesion in the bladder but from urinary stasis, due to the pathological processes compressing and constricting the ureters and then causing back pressure, sepsis, and uremia.

3. Six patients presenting hopeless, incurable bladder diseases are reported in whom extreme misery and untold suffering were successfully relieved by diversion of the urinary stream into the skin of the iliac region of the lower abdomen.

4. This method of transplantation of the ureters into the skin should be the operation of choice in cachetic and debilitated cases, because it is a simple, rapid, and benign operation devoid of shock, and is a surgical procedure which is well tolerated even by the most weakened patients. It has the advantage of enhancing the diagnosis and treatment of complications and of subsequent renal diseases by the modern methods of urologic investigation which are at our command.

450 Sutter Street.

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DISCUSSION

H. A. Rosenkranz, M. D. (1024 Story Building, Los Angeles).—I am glad that Doctor Mathé has stressed the lack of shock, since many of these patients come to us with but one kidney and that one badly diseased and with but very little function. For example: Mr. A. arrived on a stretcher from Arizona three years ago, after corresponding with me for several years concerning the operation. He had undergone nephrectomy for tuberculosis of one kidney. He had a well-advanced tuberculosis of the lungs, was bedridden, and so weak that he could utter only about three words without gasping for breath. Only a trace of pthalein appeared one hour after injection. I had turned him down for operation a year previous by letter, judging that he was too poor a risk, but his persistence overcame my decision. One thousand cubic centimeters of saline were administered intravenously during the operation, which I performed under spinal anesthesia without the slightest pain. In order to get a high anesthesia in these cases I use no other modification of my usual procedure than to inject the anesthetic with considerable force, the increased force carrying it higher. It took me twenty minutes to locate the ureter, which was not attached to the peritoneum but was cemented into a tuberculous spine. The patient experienced no shock whatsoever from the ureteral implantation into the groin, and three days later felt stronger and had a better appearance than when he arrived. I left to attend the Western Urological Convention in Vancouver, and the patient died about two weeks later, evidently from uremia. I believe that the kidney had been largely destroyed and probably consisted mainly of a mass of chronic tuberculous abscesses and cavities. I had decided to do a nephrostomy upon this patient instead so that abscesses, if found, might be opened and drained in order to relieve the patient of his toxemia, but an enthusiast on ureteral implantation talked me out of it on the night preceding operation. I quote this case to show how well the extreme case of pulmonary and solitary renal tuberculosis, almost moribund, stands this operation, and to stress the advisability of spinal anesthesia in such cases. The operation is simple and as a rule can be performed readily within thirty minutes.

The days of ether nephritis are not over. Another patient suffering from solitary renal tuberculosis begged me repeatedly not to give him a single whiff of ether. I cautioned the anesthetist, but after the operation he informed me that he had "found it necessary to give the patient but very little ether." The patient, a strong, relatively healthy, individual with excellent function in his remaining kidney succumbed to anuria about six days after operation—I believe to an ether anuria. Some form of gas or, in extreme cases, spinal anesthesia should be employed.

As Doctor Mathé has stated, the condition of many of these patients is most wretched. The morphin habit is the least of their troubles. After short-circuiting the bladder they not infrequently gain thirty to fifty pounds in weight and, because of sound sleep, their pulmonary, prostatic, and vesicular tuberculosis heals—has always healed in my posthospital cases—for we know that most patients with kidney tuberculosis will heal if given a chance, i. e., removing the stresses that are exhausting the patient, and urinating every ten to fifteen minutes day and night plus pain, are the outstandingly fatal stresses of renal and bladder tuberculosis. Suprapubic cystotomy relieves these tuberculous bladders for a time only, for progressive contraction of this sensitive organ causes its walls to become painfully irritated by the retention catheter and the patient again begins to slip away rapidly. After ureter implantation some of my patients have pursued their previous vocations, such as ranching, carpentering, and attending school, over a period of from eight to eleven years.

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Robert V. Day, M. D. (1930 Wilshire Boulevard, Los Angeles).—I wish to emphasize several points that Doctor Mathé brings out, basing my experience on ten cases:

1. That the operation is almost devoid of shock and therefore of danger to life.

2. That it practically never fails to give such results as he describes.

3. That the Coffey operation entails too much surgical procedure (with or without cystectomy) on a patient who has a degree of carcinoma which is obviously incurable.

4. In many cases where by reason of the obstruction in the lower ureters due to carcinomatous infiltration, with dilatation of the ureter and kidney pelvis and with damage to the kidneys themselves, infection with streptococci, staphylococci, Hager's Bacillus or *Bacillus alkaligenous fecalis* (or any combination of these), is quite likely to supervene. In such cases the urine becomes ammoniacal, and it is a well-known clinical fact that ammoniacal urine produces much chemical trauma of the mucosa and wall of the bladder—and even to the skin of the abdomen when such urine is allowed to run over it. Personal experience with the Coffey method in such cases has demonstrated to me that in these advanced cases (at least sometimes after bowel transplantation) a severe proctitis results.

Doctor Mathé has described a very excellent technique. Occasionally, however, I bring the ureter through a stab wound, always taking care not to suture the muscles and fascia too tightly around the ureter. One must never fail to drain the retroperitoneal space with rubber tissue, preferably of the Penrose type. Following the operation, I very much prefer a small Eynard whistle-tipped rubber urethral catheter to the ordinary ureteral catheter. Rubber is a better drain where it can be used. I have failed to note the postoperative infection of the kidney coming on a few days after the operation. This I believe can be avoided by using the rubber catheter.

I personally never do a preliminary nephrostomy for the reason that the ureterostomy does absolutely everything which can be accomplished by the nephrostomy and, further, because a nephrostomy entails a longer incision, more shock, loosening and delivery of the kidney out of its bed and unavoidable kidney trauma due to this loosening, delivery and handling of the kidney.

Like Doctor Mathé, we use catheters in the ureter or ureters until the rubber drains are removed and the wound is well healed, and in most cases continue to use them indefinitely. In the case of a middle-aged woman operated on in 1919 for a huge papillomatous cyst of the ovary in which the surgeon removed a section of the ureter (which was immediately followed by repair), I transplanted this ureter into the skin three weeks later and from that time (1919) until her death from carcinoma in 1927, she continuously wore a rubber catheter in her ureter, soon learning to care for it and change it herself. During the first year I was repeatedly asked to perform a nephrectomy on her; but because her other kidney had only a very low function while the ureterostomy side had a good function, I persistently refused to do the nephrectomy. After a year's time, however, she became used to the ureterostomy and was in good health until a year and a half before her death from carcinomatosis resulting from a late recurrence.

In another case with a diverticulum of the lower ureter and hard cicatricial stricture at the ureterovesical junction, in a patient from whom the other kidney had been removed, the patient returned from Mexico one year after I had performed the ureterostomy with seven stones in his ureter and kidney pelvis. These were extracted in my office with a long, curved Mayo ureteral stone forceps.

I am particularly delighted with Doctor Mathé's apparatus for collecting the urine without catheters. It is necessary in some cases to use some such apparatus instead of a cather.

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Doctor Mathé (Closing).—In discussing this paper Doctors Rosenkranz and Day have emphasized the observation that has been voiced by practically every surgeon performing ureterostomy into the skin, namely, that it is devoid of shock and well tolerated by the most debilitated patient, and that it relieves inexpressible misery and suffering. Since the presentation of this paper I performed an ureterostomy with Dr. L. Player on another patient for incurable carcinoma of the bladder, ureter, and kidney. The patient arrived in the hospital in a moribund condition, greatly emaciated, uremic, constantly urinating, and suffering excruciating pain which was partially relieved by huge doses of morphin. His blood picture was bad, inasmuch as the red count was very low (erythrocytes, 3,400,000) and the white count high (leukocytes, 25,000). On March 10, 1930, we severed and resected a portion of the right ureter and performed ureterostomy into the skin on the left side. The operation was performed under spinal anesthesia. The following day the patient was entirely relieved from vesical tenesmus and severe pain and was able to sleep for the first time in three years. He has steadily improved and is now receiving the Coffey-Humber extract for cancer.

Five years ago I successfully implanted the ureter into the skin of a patient suffering from incurable tuberculosis of the bladder. The results were excellent, but inasmuch as the physician who referred him to me has since died, I lost trace of the patient and lack the clinical details to include his case in this paper.

In debilitated patients the intelligent employment of spinal anesthesia with all its improvements gives excellent results. Fifty per cent of the operations reported in this series were performed under spinal anesthesia, and at no time was there any suggestion of postoperative anuria. Like Doctor Day, I have also used small rubber catheters in place of the ordinary ureteral catheter composed of silk and gum, but as far as postoperative pyelitis was concerned it seemed to make very little difference whether the rubber or the silk catheter was employed. The pyelitis is probably due to a reaction of the kidney and ureter to the indwelling foreign body. When there is no hydro-ureter it is hard to secure rubber catheters of sufficiently small diameter to accommodate the ureter without causing pressure atrophy of its walls. When practical, one should employ the rubber catheter, as it can be readily sterilized by boiling and the patient has less trouble in its care.

With the patients who tolerate the indwelling ureteral catheter, I prefer to have them use the collecting apparatus which I have perfected. It collects urine which might come away between the wall of the ureter and the catheter. It allows for collection of urine over a period of hours without leaking, while the patient finds it adjustable and tolerable with ease. It is approximated to the skin by an inflatable rubber ring which acts as a seepage-tight cushion which rests against the skin without injuring or abrasing it in the slightest manner. This approximation prevents leakage. The chance of ulceration and infection of the skin is reduced and the uriniferous odor which is so objectionable to the patient is eliminated.

In certain cases preliminary nephrostomy relieves the back pressure and allows one to combat advanced renal infection, assuring success for the ureterostomy operation to be performed later. It acts very much in the same manner as a cystotomy does in the two-stage prostatectomy. It should not be used in all patients, but in a carefully selected case it assures early drainage. If properly performed in the manner which I have described, little trauma, if any, is inflicted on the kidney.

There is no doubt that this beneficent operation has a place in relieving the suffering and misery accompanying incurable diseases of the bladder and uterus. Clinical observation and pathological study have demonstrated that it has no harmful effect on the kidney nor does it impair its secretory function. I recommend its earlier employment in indicated cases when there is a better chance of relieving suffering. Unquestionably, many lives could have been prolonged for months, if not for years, had this operation been properly performed before irreparable injury to the kidney had taken place.

SPASTIC CONTRACTION RING—A CAUSE OF POSTOPERATIVE INTESTINAL OBSTRUCTION*

REPORT OF CASE

By H. Spencer Hoyt, M. D.
Monterey

Discussion *by John Homer Woolsey, M. D., San Francisco; Frederick H. Rodenbaugh, M. D., San Francisco; Walter C. Alvarez, M. D., Rochester, Minnesota.*

With the development of abdominal surgery, the possibility of postoperative intestinal obstruction has become an ever-present hazard attending the efforts of the surgeon. In spite of much study and discussion, the cause of postoperative vomiting following operations upon the gastro-intestinal tract is often still obscure. There is a fairly well recognized group of patients in which the obstruction is due to a definite mechanical factor such as the pressure of a band, or the strangulation of a loop of bowel in an internal hernia. There is, in addition, the group of patients in which vomiting is only a transient reaction to the anesthetic, and quickly subsides. Between these two fairly well defined groups there are a number of patients in which the diagnosis is obscure, and it is often difficult to state whether we have a definite obstruction or not. In a certain number of patients in this latter group the factor producing the obstruction is a localized spastic ring in the bowel.

REPORT OF CASE

A male patient, age forty-two, was operated upon for obstructive duodenal ulcer, a posterior gastro-enterostomy with catgut sutures only being performed under ether anesthesia. Persistent vomiting followed the operation and a duodenal tube was passed to the stomach and allowed to remain in situ. Forty-eight hours after the operation no fluid was leaving the stomach. The patient was taken to the operating room and the sutures clipped with a pair of scissors, allowing the wound to reopen to the peritoneum. No anesthetic, either general or local, and no preoperative hypodermic was given. After clipping the catgut uniting the peritoneum a quick stroke or two of the finger separated the peritoneal edges. The patient was instructed to take some deep breaths, and the anastomosis presented in the upper part of the wound. Opposite the lower end of the suture line was seen a narrow white contraction ring in the jejunum, completely obstructing the bowel. The ring was approximately one-half a centimeter wide. As this white constricted ring in the bowel was watched, it was seen to relax for a fraction of a second at times and, as it relaxed, very superficial peristaltic rushes were seen to pass along the bowel in both directions, from the point of spasm. As the white ring relaxed, it became momentarily the normal pink color of the bowel, proving conclusively that it was a spastic ring and not a real constriction. The relaxation, however, was not of sufficient duration to permit the intestinal contents to go on. Infiltration of the abdominal wall with novocain was then carried out and the abdomen closed. The patient was put upon atropin for a few days and the stomach promptly began to empty, and he had no further trouble.

LITERATURE

A study of the literature bearing on this subject revealed a number of reports dealing with intestinal obstruction due to spastic rings. Engstad[1] in 1928 summarized the literature and reported six patients, observed during a surgical experience of thirty-five years. Three of these constrictions were stated to be in the jejunum, and in the other three the portion of the small intestine involved was not stated. In each instance, however, a firm white contraction ring was found as the cause of the obstruction. In one the ring relaxed after the bowel was lifted up into the wound, and in another the band relaxed its grip on the application of hot compresses. Both of these patients recovered. None, however, were obstructions following operations. Jirásek[2] in 1925 reported four cases, and Köerte[3] in 1924 reported several cases of obstruction after gastro-enterostomy in which a spastic obstruction of the jejunum was found, a considerable portion of the jejunum being involved. He does not mention the anesthetic used. He treated all these con-

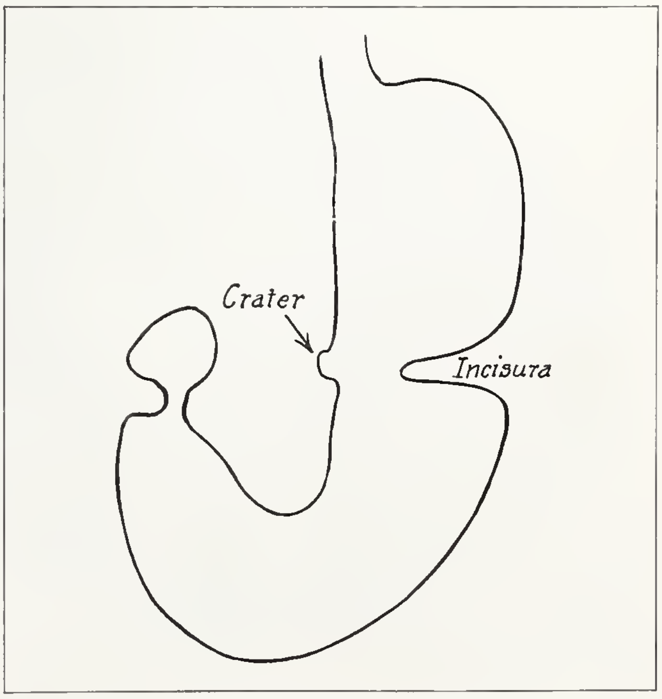

Fig. 1.—Schematic drawing showing typical incisure opposite gastric ulcer.

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* Read before the General Surgery Section of the California Medical Association at the fifty-ninth annual session at Del Monte, April 28 to May 1, 1930.

ditions by making a new anastomosis, short-circuiting the spastic area. Van der Hoeven,[4] Schloffer,[5] Fromme,[6] Riess, Hauer,[7] and Florack[8] have also reported cases.

THEORIES AS TO CAUSATION

Jiràsek believes that degenerative lesions in the cells of Auerbach's plexus are one of the intramural causes of digestive tube spasms. Engstad,[1] however, from the observations made on his patients, concluded that the spasm was reflex, often originating in the reproductive organs. Alvarez[9] says: "One function of the plexus is probably to keep the muscle from being too active or from contracting down into a hard knot. It is well known to experimental zoölogists that when smooth muscle is cut off from its nervous connections, its tone is likely to rise to a point where rhythmic contractions are no more possible. The condition corresponds somewhat to that seen in the spastic paralyses of the voluntary muscles in man after cerebral hemorrhages. It may easily be that some of the contraction rings seen in spasmodic ileus are due, not to an excess of nervous stimulation, but to an absence of it."

It seems probable that the cause in some instances is reflex from distant organs and that in others it is due to local destruction or malfunctioning of the cells of Auerbach's plexus. The well-known spastic incisura frequently observed by the radiologists, opposite an ulcer on the lesser curvature of the stomach, may possibly be considered an example of this type of spasm. An interesting observation is that of Kirstein (quoted by Alvarez), who has shown that if the ileum be cut across and sewed up, food taken packed against the obstruction, but the dogs did not vomit and did not seem sick. If he pinched the bowel with an elastic ligature the food was held back far above the lesion and the dogs were very sick. The more irritating the cause of the obstruction the more pronounced the symptoms of a reversal of the intestinal gradient were. It would seem, on theoretical grounds, that a spastic ring would therefore be productive of marked clinical symptoms, which is true of the cases reported.

COMMENT

There seems to be a wide variation in the spastic areas both as to the amount of bowel involved and the degree or persistence of the spasm. While most of the cases reported describe only a narrow white ring of spasm, in a few several inches of bowel were involved. In some patients the spasm was relaxed by merely lifting the loop of bowel out of the abdomen, or by the application of hot cloths. In others the administration of atropin was necessary. In still others the spasm was resistant to atropin, and in some even to ether anesthesia.

CLINICAL SIGNIFICANCE

From the frequency with which spasm is observed by the radiologists in portions of the intestinal tract subject to satisfactory x-ray examination, *i. e.,* the esophagus, stomach, colon, and possibly the duodenum, it would seem quite probable that the twenty or more feet of small intestine may be the seat of more spastic manifestations than we are at present able to demonstrate clinically. The observation here reported raises the question as to how frequently postoperative interference with gastro-intestinal motility is associated with localized spasm, particularly following operations in which the intestines are clamped or sutured, involving the possibility of trauma to the cells of Auerbach's plexus. The fact that many of these spastic rings are easily relaxed makes it particularly difficult for the surgeon to establish their presence with certainty. The administration of morphin and atropin or of full doses of novocain would undoubtedly relax many of them. Probably very few would persist after ether anesthesia. The spastic incisura opposite gastric ulcer, so frequently seen by radiologists, is rarely observed by the surgeon, probably because of the spasm-relaxing effects of the medication or anesthetics used. If operation is performed for postoperative or other obstruction, and the real offender in the shape of a spastic ring is not detected, the surgeon is apt to blame the trouble on some band or adhesion or perhaps even to perform another anastomosis.

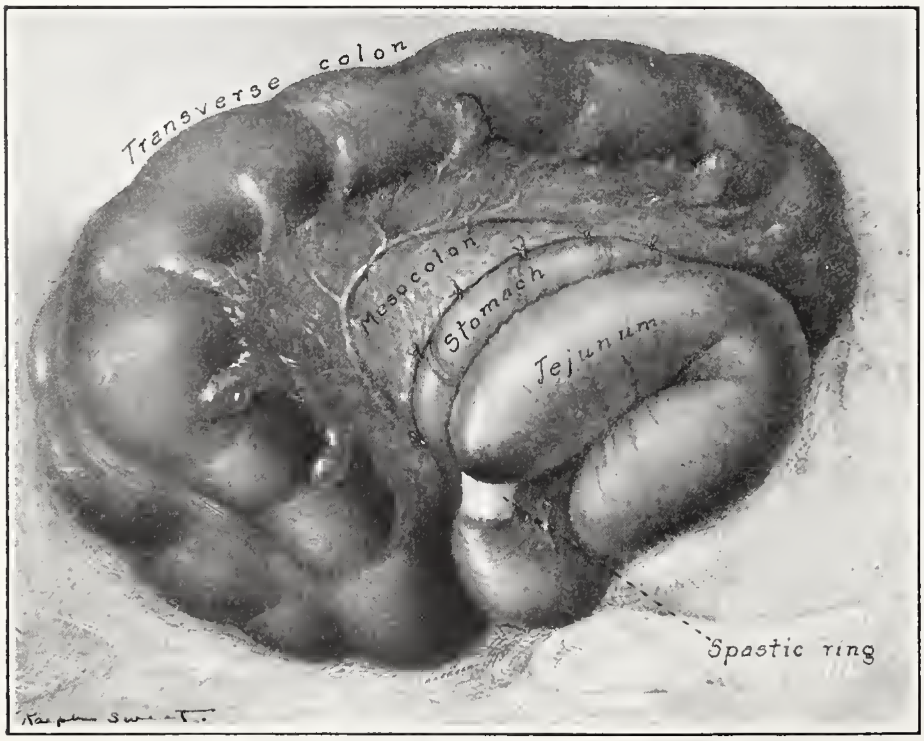

Fig. 2.—Spastic ring in jejunum following gastro-enterostomy.

In opening the abdomen for obstruction, it is therefore of prime importance to avoid antispasmodic drugs or anesthetics.

If an operation has been recently performed, it will be possible in some instances to reopen the abdomen and see a few loops without any anesthetic. In many of these the obstructed loop will present in the wound. Where this is not possible, spinal anesthesia would seem to be the anesthetic of choice because of the ease of exploration which it gives. In case of a spastic ring due to the plexus being out of commission, we should, theoretically, expect no effect on the ring from spinal anesthesia. In case of a spasm due to distant reflex causes, spinal anesthesia might be expected to give relaxation.

CONCLUSION

Spastic contractions occur in the small intestine, both from reflex and direct causes, and are to be considered in case of acute obstruction. The effect of anesthetics and preoperative medication on the possibility of their detection is discussed.

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DISCUSSION

John Homer Woolsey, M. D. (490 Post Street, San Francisco).—The occurrence of a spastic contraction ring, as observed by Doctor Hoyt, is of tremendous interest. It is a known fact that one may have spastic contractions of the sphincteric regions and also in the stomach from some local or referred irritation. That it has been seen to occur in the jejunum is, therefore, of additional interest. The cause of such a contraction band is not clear. The most plausible explanation today is that it is due primarily to an unusual stimulation or a lowered threshold of stimulation of the vagus. The short reflex through the intrinsic nerve plexi of Meissner and Auerbach alone may be the cause. One observes also a similar contraction band at times when the blood supply to an intestinal loop is temporarily injured—again being a reflex of the intrinsic nerve plexi. In any event, as demonstrated by Doctor Hoyt in instances of nonprogression of the normal gastro-intestinal content, inhibitors of smooth muscle contraction, such as belladonna, atropin, or luminal, should be employed before resorting to further surgery.

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Frederick H. Rodenbaugh, M. D. (490 Post Street, San Francsico).—Spasms of the small intestine, as observed and described by Doctor Hoyt, are of theoretical and clinical interest to the roentgenologist as an explanation of some of the acute abdominal symptoms.

The roentgenologist observes spasms of varying intensities in other portions of the gastro-intestinal tract and has observed the type of spasm described by Doctor Hoyt in the stomach, esophagus, and colon; but spasms of the small intestine because of the acute onset have not been observed in routine studies.

Doctor Hoyt's observation is most interesting, and it is not improbable that spastic contractions of less intensity and duration than those which produce the acute obstructive symptoms might be the cause of some of our subacute abdominal symptoms of unknown etiology.

Doctor Hoyt's report has been most instructive and should stimulate interest in this condition which, theoretically at least, should not be infrequent and may be the cause of some of the unrecognized acute postoperative abdominal symptoms.

* * *

Walter C. Alvarez, M. D. (Mayo Clinic, Rochester, Minnesota).—This is an interesting case and well worth reporting. I have many reasons for suspecting that if the bowel had been opened in this person a patch of jejunitis or an actual ulcer would have been found in the neighborhood of the ring. In some persons the making of a gastro-enterostomy, with the pouring of acid gastric contents directly into the jejunum, causes considerable irritation of this part of the bowel. In a number of cases of gastrojejunal ulcer the history suggests strongly that the lesion formed before the patient left the hospital.

I know of a few cases in which a contracted ring similar in appearance to the one reported by Doctor Hoyt had to be excised before the patient could recover.

THE LURE OF MEDICAL HISTORY

CALIFORNIA'S FIRST MEDICAL HISTORIAN, VICTOR JEAN FOURGEAUD, A.B., M.D.*

PART I

By J. Marion Read, M. D.
San Francisco

THE circumstances which sent a cultured gentleman and distinguished physician across the plains to California before the gold-rush days of '49 might make a tale. And in the case of Doctor Fourgeaud they do. That this pioneer doctor was also a profound student of medical history renders the story of his life peculiarly appropriate for this occasion, inasmuch as the Stanford chapter of Alpha Omega Alpha has dedicated itself to the study of California medical history.

Victor J. Fourgeaud was born in Charleston, South Carolina, obviously of French lineage. The events of his early life are known to us chiefly by inference. Even the date of his birth is disputed. The historian, Eldredge,[1] records it as April 8, 1817. William Heath Davis[2] asserts that it was February 1, 1816, which seems correct, as it tallies with the fifty-nine years graven on his tombstone as his age at death in 1875.

When about ten years old he was taken to France, where he received much of his preliminary education. He returned to his birthplace, however, to study medicine, since it is recorded that the Medical College of South Carolina conferred upon him the M. D. degree in 1837, when he was twenty-one. Immediately thereafter the young medico departed for Paris, where he spent three years in further study. Eldredge says Fourgeaud was a graduate of the University of France, but it seems probable that his A. B. degree was attained at the French institution prior to taking up the study of medicine in this country.

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*Second annual address delivered before Stanford Chapter of Alpha Omega Alpha, May 17, 1930.

His familiarity with the views of leading French physicians of his time, as shown in his original writings and notes upon translations, indicates that the three years in Paris were years of sincere postgraduate study.

A further reason for believing that his Paris days were spent in the clinic, hospital, and medical library, rather than in those pleasure palaces which visiting Americans in their early twenties are apt to frequent, is that during this period he began an extensive research into medical history. How or why this very young doctor took such a keen interest in the story of medicine, we do not know.

We do know, however, that the interest was deep and genuine, for the studies begun in Paris as a youth were continued under the vicissitudes of practice in various places, and culminated after a quarter of a century in a work which he probably regarded as his magnum opus.

But Doctor Fourgeaud's fame rests not alone on his recording of what others accomplished. By virtue of his thorough knowledge of medicine and by displaying the courage of his convictions he inscribed his own name in the medical history of America.

Our hero, like many of us, presented a strange combination of mental traits. His chief interest, mayhap his hobby, was the history of his profession and in this respect he looked backward upon Time, yet, Janus-like, he also looked ahead—far beyond present attainments toward the future. This we are led to conjecture from the conduct of his life.

For example, when the time came to practice his art he did not remain in France but returned to the United States. Nor did he tarry in his native state or anywhere on the Atlantic seaboard but turned westward and took up his abode in St. Louis.

St. Louis, then with about fifteen thousand inhabitants, was the frontier city of the country. Its location on the western edge of civilization and a large French-speaking population were probably the influences which led Fourgeaud to locate there for the practice of his profession.

How the young doctor of twenty-four obtained a foothold in this frontier city we can readily imagine. He seems to have possessed a pleasing personality, better than the average medical education, and the ability to speak French as fluently as English.

We know that he achieved a considerable degree of success in the practice of medicine during his seven years' residence in St. Louis, and that his fellow practitioners there came to respect him, as others did later in California.

Somewhen during this period he took unto himself a wife and to the couple, while still living in St. Louis, was born a son.

When Doctor Fourgeaud had been practicing about three years the first issue of the *St. Louis Medical and Surgical Journal* made its appearance, bearing the date of April 15, 1843, and under the editorship of M. L. Linton, professor of medicine in the St. Louis University. The second article [3] in this initial issue was a translation by Fourgeaud from the French of an essay upon "Auscultation During Pregnancy." In a footnote the translator gives a critical review of the opinions then held concerning how the two heart sounds are produced. This point in cardiac physiology continued to excite Fourgeaud's curiosity for some years, as we shall see later.

The natural desire of every Boswell to paint his Johnson in the most heroic stature has led one of Fourgeaud's biographers to credit him with founding and editing the *St. Louis Medical Journal*. This half-truth has been propagated by others,[4] myself included,[5] and so in justice to the whole truth I record that Doctor Fourgeaud was a co-editor with Doctors Linton and McPheeters for twenty months prior to his departure from St. Louis.

With a medical education, exceptional for the times, combined with a flair for writing, it was to be expected that his literary ability would make itself known in time. In the issue of August 1845 appears the announcement, "Our readers will perceive that Dr. V. J. Fourgeaud, our esteemed correspondent and efficient collaborator, is associated with us as co-editor." [6] On the title page the new editor is described as one of the physicians of the St. Louis Hospital, etc.

Undoubtedly Doctor Fourgeaud had made rapid progress in his climb up the ladder of success. And the reason is not difficult to find, if we may judge his professional ability by the quality of his writings.

Two of his undertakings are particularly worthy of mention. In March 1844 he published the first article of a series based upon annual analysis of the mortality statistics of St. Louis. The title was "Mortality Among Children in St. Louis," [7] and his chief concern was the heavy death rate among small children from cholera infantum. It was a most ambitious undertaking, as well as a worthy and necessary one, for, as the author says, his city had hitherto neglected publication of its mortality figures, thus lagging behind other cities.

An excerpt from the introduction follows:

> "Our mind was directed to this subject by the alarming mortality which prevailed among the children of this place during the past summer, especially during the months of July and August. It is indispensable for us to obtain accurate information respecting this mortality. We must learn the number of victims, and the maladies of which they died. The causes,

also, shall be inquired into; for every conscientious and philanthropic physician feels himself bound, not only to relieve the sufferings of his fellow citizens, but also to discover their causes and remove them if it be in his power."

His expressed viewpoint reveals an advanced conception of the epidemiological nature of the problem and also of the proper manner in which it should be attacked.

Reviewers for the *American Journal of the Medical Sciences* took cognizance of these articles and published complete abstracts of them upon two occasions. One comments: "In demonstrating the extent of a great source of suffering and mortality among his fellow citizens, Doctor Fourgeaud has displayed both intelligence and zeal in the cause of humanity." [8]

One is impressed at almost every turn by the soundness of Doctor Fourgeaud's views. To a mind of more than average native ability had been added a most excellent medical training in an atmosphere of refinement and culture. It is quite likely that Victor Fourgeaud was the best prepared and most cultured physician practicing in that frontier city during the 1840's, a period prior to medical licensure and when the layman made no distinction between graduate physicians and those who undertook the practice of medicine after a two years' apprenticeship to a physician preceptor.

The mark of true culture is discernible in Doctor Fourgeaud's broadmindedness and liberality of viewpoint. But this was to be expected of one who had delved as deeply as he into the history of his profession. Just what experiences or trend of thought prompted him we do not know, but during his St. Louis sojourn he drew upon his historical notes for a series of papers under the title of "Eclecticism in Medicine." [9]

He wrote, "Each day witnesses the birth and death of systems, and a cursory glance into the history of medicine will suffice to convince us of their absolute insufficiency."

He proclaims general acceptance of the experimental method of Bacon as applied to the investigation of the nature and treatment of disease and makes a plea for empiricism.

> "Was it reason that discovered the efficacy of peruvian bark in intermittent fevers; of mercury in syphilis; of iodine in goiter, etc., etc.? . . . Our inability to explain the *modus operandi* of medicaments is no sufficient reason for their rejection when their efficacy is incontestable. . . . We are at a loss in numberless cases for correct pathological or physiological notions. What do we know of intermittent fevers? Has the secret of their periodicity as yet been explained?"

It is the mark of an intelligent and educated physician to know the limits of knowledge pertaining to his profession. The therapeutic triumph of quinin over malaria did not mislead Doctor Fourgeaud into satisfied belief that his profession required to know nothing more about the disease.

On December 23, 1845, this rising French physician, then twenty-nine years old, delivered "An Introductory Lecture on the History of Medicine" before the Medico-Chirurgical Society of St. Louis. He concluded:

> " . . . I have given you a rapid and imperfect sketch of the past history of the science to which you have devoted yourselves.
>
> "Its future greatness, who can predict? What a splendid vista opens before us.
>
> "You, gentlemen, are in part the depositories of its testing. Be faithful to your trust. Press onward, with an eye fixed unblenchingly on truth, like the eagles on the sun. Steer clear of the shoals and quicksands on which so many have been wrecked. Trust not yourselves to imagination in a science involving such high and holy responsibilities as the health, happiness, and life of our fellow men. Devote yourselves with untiring vigilance to the observation of facts. Be not dismayed by difficulties, but like true sons of the gallant west, rouse all your energies into action and overcome them." [10]

As we look back over his life and peruse his writings can we doubt the high ideals and honest intent of this man, or his ability and desire to render competent and conscientious service to his patients? Yet they were doubted. Nay, more, he was hailed before a tribunal in a malpractice suit.

There is something about such suits which sets them apart from all other civil suits. Behind each suit usually sits the grinning god of Malice or his grasping brother Avarice. Even when the defendant wins he has lost that which every physician prizes above all—an unsullied reputation for integrity and ability.

It is inconceivable that a malpractice suit would ever be brought in a community made up entirely of cultured persons such as was Victor Fourgeaud, for example. But St. Louis in 1846 was not such a community, nor is it likely that such ever existed or exists today.

One can easily imagine how this suit shook the equanimity of this refined and highly lettered young physician. To a man who had dedicated himself to the best in medicine, who had labored long over the mortality figures to ascertain why so many infants died in St. Louis, who had pleaded in print for the erection of a children's hospital—to such a man a malpractice suit was a calamity, a blasting of his fondest hopes and aspirations.

Now there are those thick-skinned sons of Mammon who occasionally enter medicine with the mistaken idea that it is a highly remunerative calling. To them a malpractice suit is all in the day's work and perhaps something to be capitalized.

But Victor Fourgeaud was not of this stripe. His gentility, however, did not require him to take this blow without retaliation, and his retort was made in a characteristic manner.

"Medical Responsibility—The Public and the Physician" [11] was the title of his published thoughts upon malpractice suits.

> "Nothing is more calculated to impede the progress of our science than the custom, now becoming so prevalent of sueing for alleged malpractice. It is of no unfrequent occurrence in our day and country to see an honorable and skillful physician dragged before the public, summoned before a court of justice—and for what? To answer for some supposed or

actual error of judgement to which as fallible man he was liable; and before what tribunal is his cause to be adjusticated? judge, learned in the law, perhaps; jurors, high-minded and conscientious men, we don't doubt, and qualified to decide all other cases that may be laid before them, but wholly ignorant of everything appertaining to our science. Can such men be deemed competent judges in questions entirely medical in their character? Undoubtedly not."

In his article Doctor Fourgeaud pointed out the long preparation demanded in France of those who would practice medicine, the rigid tests to be passed before certification, and also the guarantees and protection given the medical profession in a highly civilized country.

Disillusioned, disappointed, and deeply perturbed by the malpractice suit, our enthusiastic young physician decided to leave St. Louis. In fact we might expect that he would return to France, to an environment in which, by breeding and education, he was at home.

But we have yet more to learn about Victor Fourgeaud. Though his culture was more than a veneer and the hold of organized society upon him was a strong one, yet it could not turn his steps eastward.

The primitive man in him; the call of adventure; the desire to pioneer, to see new worlds—these turned him westward. The newest part of the new world rather than the effete old world beckoned to him. It fascinated him now just as St. Louis had appealed to him seven years before.

What had he accomplished in those seven years in the frontier city which had more than doubled its fifteen thousand inhabitants in the period? He had climbed to the top in his profession and had evidently attained financial success sufficient to invite a malpractice suit.

But a man's peers and contemporaries know best his true worth, so I quote Doctor Linton [12] in an editorial note entitled simply:

"Dr. Fourgeaud

The connection of our esteemed co-editor with the *St. Louis Medical and Surgical Journal* has ceased. We doubt not that our readers will regret this. Why Doctor Fourgeaud should leave St. Louis for the shores of the far-off Pacific we acknowledge that we can see no good reason; that is, we can see no good reason why a physician in a good lucrative practice—surrounded by numerous friends—in the enjoyment of all that wealth can afford in a large, rapidly advancing and flourishing city, blest with all the faculties and endowments physical, moral, and intellectual for acting a glorious part on such a theatre should voluntarily turn aside from all those things to take up his abode in California. To the burning spirit of adventure, which is nowhere so powerfully in operation as in this country—that spirit which beckons with wizzard charms to unexplored valleys, undescribed climes, and untrodden coasts, to the mysterious yet potent operations of this spirit only, can we attribute the apparent heroism of such conduct. If our influence could have counteracted such an influence, the profession of St. Louis would not have lost one of its most brilliant ornaments; as it is, all that we can do is to utter a heartfelt wish that our noble-hearted and enthusiastic friend, as he follows westward the bright star of empire, may realize all the enchanting visions of his imaginings—find an eutopia equal to his fondest hopes.—L."

And so one day in April, with his wife, little son, and his brother, he turned his back on St. Louis and headed out across the prairie. It is recorded [4] that at the first sunset they camped under some oaks twenty miles out from the city. But for the remainder of the six months' trek to California we can follow them only in fancy.

Here was fortitude. The trail of '49 to California was not yet blazed. What could such a small party do if attacked by Indians? What did this Paris-raised gentleman and his brother know about firearms, buffalo, prairie fires, packing, camping, and woodsmanship in general?

Perhaps the news of the tragic fate which befell the Donner Party the winter before had not yet filtered back to St. Louis. Would it have made any difference to the doctor? I doubt it.

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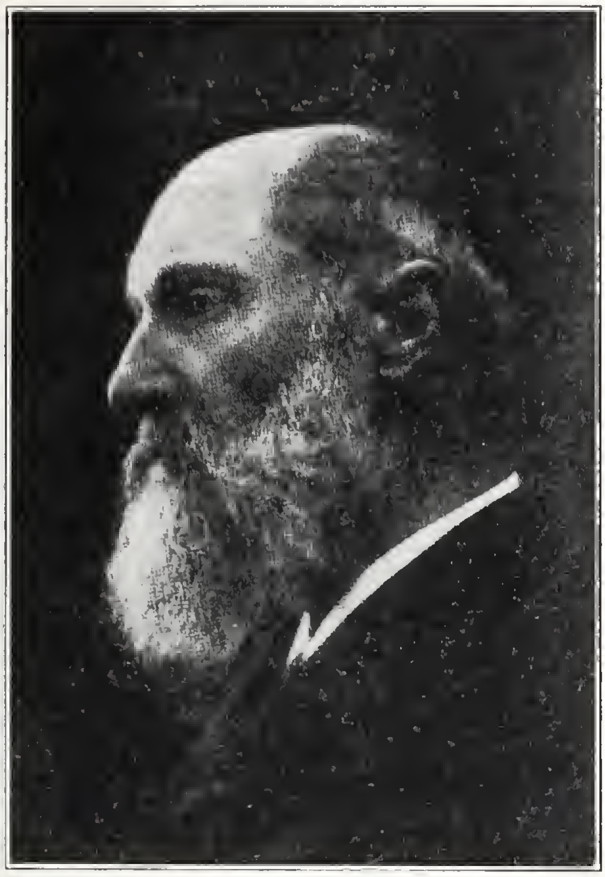
MASTERS IN MEDICINE

A TRIBUTE TO THE LATE ERNST FUCHS

Among outstanding figures in medicine few have loomed larger through their work than Professor Ernst Fuchs of Vienna, whose monumental studies in ophthalmology for many years made him the recognized dean of that specialty. His death took place in Vienna on November 21, 1930.

The *Wiener Klinische Wochenschrift* of December 4, 1930, printed a tribute from Professor Josef Meller of the I. Eye Clinic, University of Vienna, himself a celebrated assistant and associate of Fuchs in former days, and well known to a host of leading American ophthalmologists whom he has taught. Excerpts from the tribute by Meller are worthy of perusal, not only because of the deserved praise given to one of the world's great masters in medicine, but also because of the emphasis placed upon the true character of scientific labor. On that account some portions of his tribute to his former chief are here printed.—(Translations by the courtesy of S. L. Millard Rosenberg, Ph. D.):



Ernst Fuchs

Multis ille bonis flebilis accidit

Now Ernst Fuchs is gone, too, into the realm of the shades and into Pluto's home, he who seemed indestructible, who was for us the very symbol of perseverance, the strong pillar of our science on which we climbed upward and which was our very prop and support. . . .

Although kindly Fate had spared him for so long a time, his demise came all too soon, for us his pupils, for our higher institutions, and for our fatherland. For he labored for all of us to his very last days. He was our pride, our joy. With his renown he carried a vision of Austrian science to the farthest corners of the earth, and the honors accorded him everywhere reflected creditably on our land. Love, worship, and admiration were bestowed on him by the world entire, by the far West as well as by the Land of the Rising Sun. He realized the good fortune of seeing the fruits of his indefatigable labors ripening and being harvested. . . .

Ernst Fuchs was a serious man. His life was labor, incessant labor. And to that he trained his fellow workers, his assistants. Service at the Fuchs Clinic was hard. The greatest diligence alone could keep step with the director of the clinic. Performance of duty, absolute unremitting performance of duty, was to him a matter of course. There was no praise. And so he seemed cold. But he was that by no means. For he had a warm, responsive heart. He helped everyone in his surroundings, aided and promoted all, and he led his assistants to the very heights of science. Thus it was that all those, of his spirit, who strove with him toward a perception of truth, loved and esteemed him dearly, intensively. His patients, too, promptly recognized the value of this physician, and thus his clinic soon became the rendezvous of the afflicted the world over. Without discrimination whatever he had was at their disposal, attending to each with the same care and devotion. In no other clinic the world over could one observe within a few weeks so many and such rare cases as in that of Fuchs.' It was a joy to have had the privilege of being assistant there. Nowhere else was it possible to obtain so great a clinical knowledge.

Ernst Fuchs was possessed of a very great general medical knowledge, and to the very last he was in the habit of following attentively the medical sessions and especially those of the Gesellschaft der Aerzte. With every new achievement in the realm of medicine he was ever familiar and therefore, despite his advanced age, his viewpoint was never antiquated. . . .

Ernst Fuchs was simple and modest in his whole conduct of life; he preserved at all times his mental equanimity, even in misfortune, from which he was not spared either and which he bore with stoic calm.

Now after almost eighty years of mortal pilgrimage he has gone to rest. In the beautiful cemetery of Kritzendorf, high above the shores of the Danube over which a glance from his blue eyes would so often meditatively rove, he sleeps his eternal sleep. Our intensest gratitude for all we have received through him accompanied him on his last voyage. His memory will never grow dim, for his name has long loomed large in the history of ophthalmic science.

CLINICAL NOTES AND CASE REPORTS

TRAUMATIC MYOSITIS

REPORT OF CASES

By F. F. Gundrum, M. D.
Sacramento

The American flair for speed and for machinery has resulted, among other things, in the marketing of mechanical massage machines, extensively advertised in journals, for the ladies. These machines consist fundamentally of a canvas belt attached to an eccentric. In operation this gives a series of rapid, short, and powerful jerks to the belt held taut against the part of the body being treated, thus achieving a great deal of massage in a very short time. That this rapid method of massage might possibly be detrimental does not appear in the advertisements and, so far as I know, has not received any great amount of attention. On this account the following cases may be worth reporting.

REPORT OF CASES

Case 1.—Mr. G., age forty-eight years, very successful and energetic business man, purchased a machine ($125) for "family and personal use." Some three or four months later (September 1929), without any apparent immediate cause, he came down with a very severe and disabling pain in the right thigh, without fever, local redness, or leukocytosis. X-ray of the thigh showed in the adductor muscles, about five centimeters mesial to the midpoint of the femur, a calcified spicule five centimeters long and five-tenths centimeter wide. Under rest and hot compresses the pain disappeared in about four or five days. In discussing the probable etiology with this very intelligent gentleman, he finally said, "I think this all came from that ——— machine. I have been putting in some extra time upon my thighs lately and have taken two treatments a day."

* * *

Case 2.—Mrs. G., wife of the preceding, whose embonpoint has a tendency to settle in the gluteal region, has been using the same machine, with especial attention to this area. About January 1930 she became very lame with pain about the great trochanter on the right side and was compelled to go to bed; no fever, no leukocytosis, no redness. X-ray of the hip showed, in the abductor muscle, just above the greater trochanter, a calcified spicule about three centimeters long and four millimeters wide. She recovered in a few days with compresses and rest, but the "health-building machine" is enjoying a vacation.

1127 Eleventh Street.

ERYTHEMA INDURATUM*

REPORT OF CASE

By **Ernest K. Stratton**, M. D.
San Francisco

The following is the report of a case of erythema induratum, the patient at the same time having complications as follows: chronic pneumonia, tuberculous nodules of the conjunctivae, and squamous cell epithelioma of the skin.

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* Read before the Dermatology and Syphilology Section of the California Medical Association at the fifty-ninth annual session at Del Monte, April 28 to May 1, 1930.

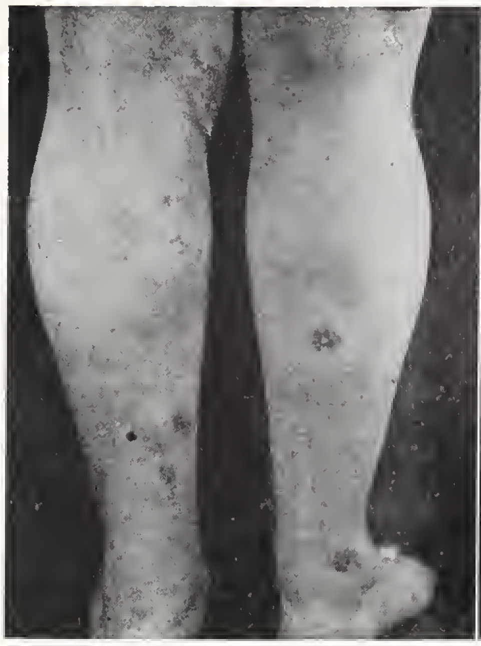

Fig. 1.—Showing lesions of erythema induratum. Circular hole of left leg is from biopsy punch.

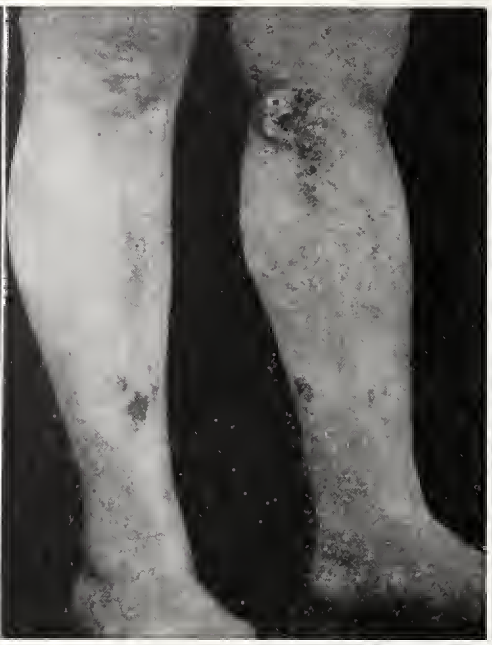

Fig. 2.—Showing lesion in left knee area.

REPORT OF CASE

Mrs. I. K., age forty-eight, was referred to me by Dr. Philip Pierson in August 1929.

Lesions.—She presented the following skin lesions:

First: Purplish-red nodules over the lower third of both legs, both anteriorly and posteriorly (Fig. 1). They had been present several weeks. The patient gave a history of having had a similar eruption in 1925, which lasted several months. Some were hard and some were soft to the touch, and others were broken down and exuding pus. Many depressed and pigmented scars were also present. This picture suggested the diagnosis of erythema induratum, as did also the biopsy (Fig. 3), which showed a tuberculoid arrangement in the hypoderm.

Second: An infiltrated granulomatous type of lesion, approximately three by four inches in size, irregular in outline, grayish red in color, situated on the mesial aspect of the left knee. Studded here and there over the area were many small superficial ulcers, especially at its borders (Fig. 2). On the whole, its appearance suggested a diagnosis of tuberculosis cutis, which diagnosis was tentatively made until the microscopical section was studied. To my surprise, the section showed it to be a prickle-celled epithelioma (Fig. 4).

Its history was that it had been present since 1923, had gotten a little larger during the intervening years, causing some discomfort owing to a sticky discharge which appeared off and on, and that during the six months prior to her first visit she noticed that it was enlarging rapidly.

Third: The left eye presented one pea-sized yellowish, elevated, hard nodule, and two match-head-sized nodules of the same type on the conjunctiva, just below to the right and just below to the left of the cornea, respectively, which had been present for about ten days. Doctor Barkan diagnosed them as tuberculous, and was of the opinion that they were due to tubercle bacilli which had come via the blood stream, rather than by the usual method of extension, that is, from underlying or adjacent tuberculous structures; much in the same way as we account for scrofuloderma which we sometimes see associated with an underlying tuberculous gland or bone. He also stated that while the patient showed evidences of a healed tuberculosis in other eye structures, that there was no tuberculous activity in them at the present time. Doctor Ophüls reported that these sections showed a congested conjunctiva and a large tubercle with caseous center surrounded by a thick layer of epithelioid cells, no giant cells.

History.—The patient's relevant history was as follows:

She had measles and whooping cough at the age of eight, followed by ulcers on cornea, which reduced her vision considerably. The eye condition lasted until she was eighteen years of age. At twenty-three she developed an ischiorectal abscess, followed by a fistula which was removed four years ago by surgery. At twenty-seven she developed a hacking cough with slight expectoration which was blood-streaked, and in February and again in March of this year she had a severe hemoptysis lasting for one week. Her appetite is good, she has no digestive disturbances, and has had no night sweats and no loss of weight.

Her physical examination showed a well developed and normal appearing woman, moderately obese. Her weight has been constantly around 153 pounds and her blood pressure 165/110.

General Physical Condition.—Doctor Pierson's report was as follows:

The lungs showed dullness and slightly diminished breath sounds at the left base. There were harsh breath sounds over the upper lobes and there were many subcrepitant râles with cough. A few fine crepitant râles were heard at the right apex.

The x-rays showed a thickened pleura at the right apex with a few apical scars. In the left apex small apical scars were noted. Radiating out from the left lower hilus was an infiltration involving the left lower lobe, as well as a thickened pleura on the left side.

The sputum was negative for tubercle bacilli.

For diagnostic purposes, Doctor Pierson gave her one-fiftieth milligram of Koch's old tuberculin intracutaneously. This caused a reaction approximately

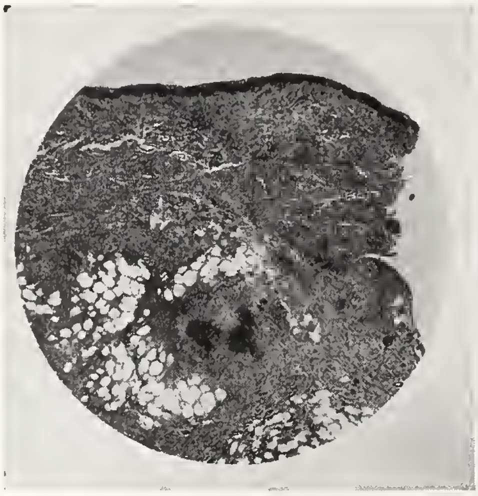

Fig. 3.—Microphotograph (low power). Erythema induratum lesion showing the pathology adjacent to the fat cells.

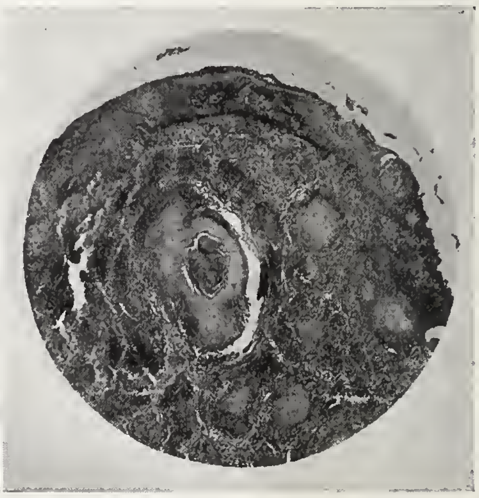

Fig. 4.—Microphotograph (low power). From knee lesion showing a squamous-cell epithelioma.

two and one-half centimeters in diameter with a central raised area one centimeter in size.

Treatment.—For therapeutic purposes the patient was given gradually increased doses of a French tuberculin preparation with remarkable success. The nodules on the conjunctiva disappeared rapidly and the activity in the erythema induratum lesions has practically subsided.

The lesion on her knee was destroyed under local anesthesia by means of electrocoagulation and, immediately following the operation, the base was treated with a massive dose of unfiltered x-ray.

Due to three factors, the wound was slow in healing. First, because there remained considerable tissue, destroyed by coagulation but left to slough of its own accord because of its involved location. Second, because of the large dose of x-ray from which there was a painful reaction lasting nearly three weeks. And third, because of the location of the lesion which was such that when the leg was flexed in walking, the granulation tissue and the new epithelial tissue were disturbed. This last made it necessary to immobilize the part. The wound finally healed after two months, and there is a firm contracted scar now in this location.

COMMENT

Two aspects of the case aroused my particular interest. First, while it is a more or less accepted theory that the lesions of erythema induratum are the result of tissue reactions to the tubercle bacilli *in situ* the organisms are difficult to demonstrate and animal inoculations are many times unsuccessful. In this case, however, we see another structure, namely, the eye, showing tuberculous nodules which were diagnosed as embolic in type.

Second: The microscopical finding of a prickle-celled epithelioma in a lesion where the clinical diagnosis was more suggestive of a tuberculosis cutis. Although I have many times observed an epithelioma developing on a tuberculous lesion, its diagnosis has always been quite evident. In this case, however, there remains the question; was this lesion an epithelioma from its inception, or was it a tuberculous lesion which had undergone degeneration?

490 Post Street.

UNIVERSITY OF CALIFORNIA—MEDICAL DIVISION CASES PRESENTED AT THE STAFF CONFERENCES

CASES OF ACUTE ANTERIOR POLIOMYELITIS

CASE 1.—S. A., single, American, male, aet. 18, entered University of California Hospital private medical service on August 19, 1930.

Chief Complaints.—Frontal headache and stiff neck for three days. Paralysis of arms and legs for one day.

Present Illness.—Patient was well up to onset of present illness. On Sunday morning, August 17, 1930, two days prior to entry, he had been working on an automobile. That evening he had a severe frontal headache and said his neck was stiff. His mother gave him aspirin, without relief, put him to bed, and called a physician who gave him a laxative, since his bowels had not moved for two days. Later the same evening his knees began to ache, giving him the feeling that he had walked for miles. He was very restless and talked in his sleep all that night. There was no increased mental irritability. The next morning he felt a great deal better, his headache was less severe, but his knees still ached. He was able to walk around. The next morning, Tuesday, he was unable to hold a glass of orange juice which his mother brought him. He said he was weak and tired all over. He wanted to go to the bathroom about 9 a. m., but was too weak to walk and his parents helped him. They left him there for a short time, during which he was unable to urinate. He was helped back to bed by his parents, who thought he was quite helpless; he was unable to support himself or to use his arms satisfactorily. The same physician came again at 11 a. m. and found him able to use his arms fairly well. That evening he became very weak, could not turn in bed, and was admitted to the University of California Hospital.

Previous History and Family History.—Unimportant.

Physical Examination.—Night of entry: Flaccid paralysis of both arms and legs. Neck rigidity. Absent knee-jerks. No Babinski or clonus. Acute urinary retention relieved by withdrawal of 800 cubic centimeters of urine per catheter. Lumbar puncture done—pressure, 30 centimeters of water. Fluid clear. Cell count 225 lymphocytes per cubic millimeter. Twenty-five cubic centimeters of convalescent "polio" serum given into muscles of each buttock.

Laboratory.—Urine: 1.025; cloudy, neutral; albumin and glucose, negative; occasional white blood cells and casts. Spinal fluid: Wassermann, negative; colloidal gold, 0012221000; protein, plus; globulin, plus. Blood: hemoglobin, 95 per cent; red blood cells, 5,950,000; white blood cells, 13,600; neutrophils, 78.6; basophils, 0.4; eosinophils, 0.0; lymphocytes, 19.0; monocytes, 2.0; platelets normal.

Course and Treatment.—August 20: Spinal puncture repeated. Fifty cubic centimeters of clear fluid mixed with blood was removed. Pressure normal. Twenty-five cubic centimeters of "polio" serum given into each buttock and lateral thigh groups of muscles. Catheterized again. Five hundred cubic centimeters of urine obtained. Fifteen cubic centimeters of five per cent argyrol instilled. He had marked distention of the abdomen with pain. No relief from enemata, hot stoupes and rectal tube. Pituitrin given with some relief. At 4 p. m. breathing was regular, much better than in the morning. Patient comfortable, temperature coming down. August 21: There was less distention. There was difficult breathing, with dilated nares. Patient was catheterized; 500 cubic centimeters of argyrol-stained urine obtained. Fifteen cubic centimeters of five per cent argyrol instilled. Condition was worse. At 4 p. m. breathing was shallow; patient very cyanotic. Oxygen given continuously. Fifty cubic centimeters of Doctor Meyer's anti-polio serum given in each thigh. One hour later, fifty cubic centimeters of convalescent serum was given intravenously. Cyanosis slightly improved by oxygen. At 8 p. m. an H. H. inhalator was obtained from the Emergency Hospital and used for one hour, but patient expired at 9:03 p. m.

Temperature was 39.7 degrees centigrade on entry. It dropped steadily and continuously until it reached 38 degrees the afternoon of the second day in the hospital, went to 38.4 degrees at midnight that night, down to 38.0 degrees the following forenoon, and to 37.7 degrees the afternoon and evening of death. The pulse varied between 64 and 118, and the respirations between 29 and 48.

Abstract of Autopsy Findings (Doctor Connor).—The subject was an unusually, powerfully built youth without external evidence of disease. The important visceral findings are as follows: There were some 200 cubic centimeters of slightly turbid liquid in each pleural cavity and numerous subpericardial and subpleural hemorrhages were present, indicating a rather acute asphyxiation. There was a hemorrhagic area in the tip of the left lobe of the liver which appeared to be traumatic. The spleen was moderately enlarged and softened.

The brain weighed 18.20 grams. There were numerous but small, reddish spots scattered throughout the brain stem and the medulla, and upon section of the cord small hemorrhages were found in the anterior horns.

Microscopic examination showed the usual perivascular lesions in the anterior horns of the cord associated with various stages in degeneration of nerve cells. This condition continues into the brain and is found in nearly all sections, excluding the cortex. There was a moderate cellular infiltration in the meninges in some of the sections. The inflammatory reaction involved also the posterior columns of the cord, but in less degree. In general the lesions are more severe and further advanced in the cervical region, the medulla, and the mid-brain. There is an incidental early bronchopneumonia.

* * *

Case 2.—Mr. W. H., single, American, male, age eighteen years, admission No. 77138, entered University of California Hospital private medical service August 15, 1930.

Chief Complaints.—Fever, aching in legs and back

Present Illness.—About seven days ago, on August 8 while vacationing on the Russian River, the patient developed what seemed to be a rather severe cold in the nose and throat, which seemed to extend to his chest the following day. There was a sensation of difficulty in breathing, and mild general malaise, fever, severe aching and pains in legs and lower back, sore throat, and slight respiratory difficulty. He called a physician on August 13. At this time examination showed only evidence of a general infection, red throat, etc. On August 14 he showed slight neck rigidity, fever, red throat, coated tongue, and slightly tender submaxillary lymph nodes.

Previous History.—Unimportant. No known contact with a case of poliomyelitis.

Family History.—Unimportant.

Physical Examination on Entry.—Head and neck: Flushed, florid face; slightly rigid neck; tongue heavily coated; throat definitely red. Lungs: Normal. Heart: Normal; rate 80; blood pressure, 125/80. Abdomen: Normal; soft; no tenderness; spleen, not palpable. Extremities: Positive Babinski on right; questionable Babinski on left; right knee-jerk greater than left; no Kernig; no clonus; no muscle weaknesses.

Laboratory.—Blood (August 15): Hemoglobin, 82 per cent (Sahli); red blood cells, 4,170,000; white blood cells, 16,500; neutrophils, 91 per cent; lymphocytes, 9 per cent. Urine: Negative except for trace of albumin. Spinal fluid: No increased pressure. Cell count, 105 per cubic millimeter. Differential shows 90 per cent neutrophils. Gram stain shows no organisms. Culture negative.

Blood (August 18): Red blood cells and hemoglobin normal; white blood cells, 11,200; neutrophils, 77.4 per cent; lymphocytes, 21.6 per cent; monocytes, 1.0 per cent; platelets normal.

Blood (August 23): Red blood cells and hemoglobin normal; white blood cells, 9360; neutrophils, 80 per cent; basophils, 1.0 per cent; eosinophils, 2.0 per cent; lymphocytes, 15.6 per cent, mononuclears, 1.4 per cent.

Progress and Treatment.—August 15: Patient was given forty-five cubic centimeters of convalescent poliomyelitis serum into gluteal muscles.

August 16: Patient has been sick, weak, nauseated, and miserable for the past twenty-four hours. Food nauseated him, and he has a lot of pain in the lower lumbar region. Physical examination: Some weakness of jaw and lip muscles and right facial weakness. Some difficulty in speech, but no special muscle weaknesses to account for it. Marked weakness of right hand and forearm. Some weakness of right biceps. Weakness of all muscles of left lower extremity, especially the extensors. Reflexes in these regions weak to absent. Given forty-five cubic centimeters more serum.

August 17: No weakness apparent today in any muscles of head, neck, or throat. Weakness of left arm and right leg now in addition to other two extremities.

August 18: To all practical purposes has complete flaccid paralysis of all limbs. No evidence of bulbar involvement.

August 20: Feels much better.

August 21: Complaining of much pain in legs.

August 22: Discharged home with special nurse. Had very stormy time during first three days in the hospital, with fever and rapidly advancing paralyses. His temperature remained normal after this, no progression of paralysis took place, and he seemed much better.

From August 22, 1930 to September 5, 1930 (fourteen days) patient went along with a normal temperature. He was kept in bed with protective treatment of the paralyzed lower and, particularly, paralyzed upper extremities—flat on back, thighs and legs slightly flexed, cradle over lower extremities, upper extremities in abduction. Patient was very alert mentally. He had much discomfort from pains in his lower extremities, and at no time did his neck rigidity disappear. There was considerable general restlessness, irritability, and insomnia. It was necessary to use quite large amounts of sedatives. Patient's appetite was quite good, urinary output was normal, and his bowels were regulated with mineral oil and at times cascara. Bladder and bowel control was normal. No evidence of respiratory paralysis; no difficulty in swallowing.

About September 3 to 5, patient became definitely more irritable, screamed and cried out, and complained of pains and general discomfort. On September 5, 1930, temperature elevation began and followed a steady rise until his death on September 9, 1930. Neck rigidity increased; patient began to vomit at irregular intervals and this symptom became more pronounced, taking on a projectile type. No additional neurological signs developed. Question of possible accessory nasal sinus infection was considered and ruled out after examination by Dr. Wallace Smith on September 8. As temperature continued to rise, patient became more and more irrational and showed marked signs of cerebral irritation.

Blood count, blood culture, and urine studies were made. Other than a slight leukocytosis these findings were negative. There was no evidence of pathology in the chest. The abdomen remained fairly soft and was negative. Fluid intake was kept up to about 2500 to 3000 cubic centimeters every twenty-four hours by salt solution under the skin and by glucose 10 per cent solution intravenously.

September 7, 1930, with N_2O anesthesia, spinal puncture was done by Dr. Howard Naffziger. Fluid was not under increased pressure. It was very slightly cloudy, which cloud was found to be due to blood contamination. Cell count was not entirely accurate because of presence of blood, but by estimation there were about twenty cells. No organisms were seen. Culture of fluid was negative.

September 8, 1930, patient was given fifty cubic centimeters of convalescent serum. Condition grew steadily worse and he died September 9, 1930.

Abstract of Autopsy Findings (Doctor Connor).—We have here a previously healthy well-developed young adult male who has succumbed to acute polioencephalomyelitis. The case is unusual in that death followed a seeming constitutional recurrence of the affection twenty-three days after the onset of the initial paralysis. Peabody (Oxford System of Medicine, 5:122) has said, "Death (in acute poliomyelitis) usually occurs within the first four days after the onset of paralysis, but it rarely takes place as late as the seventh or eighth day." Ivan Wickman of Stockholm, in his series of cases, ascribed deaths after two weeks to complications such as pneumonia. It seems significant that he lists fourteen such deaths among 145 fatal cases.

The characteristic lesions of the cerebrospinal axis are present in this case. There is hyperemia of the vessels, pial mononuclear infiltration, perivascular collections of mononuclear cells, particularly following the ramifications of the anterior spinal artery, edema and cellular infiltration of the interstitial tissue, and the parenchymatous degeneration and loss of ganglion cells. The lesions are severe throughout the length of the cord, are well-marked up into the pons, and slight changes are evident in the region of the basal nuclei.

The visceral changes are also distinctive. The lymphoid tissues are swollen, regional lymph nodes being distinct and prominent, and Malpighian bodies being enlarged in the spleen. There are focal hemorrhages in the spleen, focal necroses in the liver, and focal, acute interstitial lesions in the kidneys. The focal necrosis of liver cells has been described in poliomyelitis by Flexner, Peabody, and Draper (*Journal of the American Medical Association*, 58, 111, 1912). Acute interstitial nephritis, "with focal distribution resembling somewhat the forms of acute suppurative nephritis" is described by MacCallum ("Textbook of Pathology," 1925, pp. 285-286), as occurring "in the course of scarlatina or diphtheria, or other similar intense infections." We have, too, a left ventricular cardiac hypertrophy which is not considered to be pathologic, and pulmonary congestion, edema, and acute vesicular emphysema. This latter condition would point to a respiratory death, a death from asphyxia.

* * *

Case 3.—M. McC., age thirty-five years entered Children's Hospital August 15, 1930, with a complaint of headache, backache, pains in her legs, and inability to use her right arm.

Present Illness.—The patient stated that for a week prior to entry she had had a painful heavy feeling in the epigastrium, accompanied by nervousness. Two days before entry she developed a headache and backache, and in the evening had such a marked tremor of her right hand that she had difficulty in using it. That night she had difficulty in turning over in bed because her right arm was weak. The following day all her symptoms were exaggerated, and in the evening she was nauseated and vomited. That night she was unable to turn over in bed because of weakness in her right arm. On the morning of the day of admission, she was generally weaker, and she had no use of her right hand or arm.

Physical Examination on entry showed a well-developed and well-nourished woman who looked nervous but not uncomfortable. There was slight left facial weakness. The neck was quite stiff, and the patient was unable to sit up because of stiffness of the spine. She was unable to extend the fingers, wrist, or forearm on the right, or to elevate the right shoulder. There was slight deltoid weakness on the left also. All the arm reflexes were absent on the right, and only the biceps jerk could be elicited on the left. Knee-jerks were absent on both sides, but ankle-jerks were moderately active. The lower abdominal reflexes were active, while the upper were elicited with difficulty. Temperature was 100.8 degrees. The spinal fluid was under increased pressure, and showed 108 cells per cubic millimeter, with 72 per cent polymorphonuclears. The white blood count was 17,900, with 85 per cent polymorphonuclears.

Course and Treatment.—The patient was given 75 cubic centimeters of pooled convalescent serum intramuscularly on entry, and 100 cubic centimeters was given at noon on the following day. The day after admission, the patient showed marked weakness of the left upper arm, general weakness of both legs, and beginning intercostal weakness. The weakness of the extremities was progressive, and the limbs were practically motionless after three days. Her breathing continued to be shallow, but there was no cyanosis nor remarkable change in the pulse, until shortly after midnight on August 30, when she became suddenly worse, and within a short time respiratory effort had practically ceased. The Drinker respirator was occupied at the time by another patient, whom it was, however, possible to move for a short time. The patient was placed in the machine, and kept there for about ten hours, during which time she showed considerable improvement. At the end of that time the first patient's condition was so much worse that return to the respirator was imperative. The second patient was given artificial respiration manually, together with orygen, throughout the afternoon and evening. Death occurred from respiratory failure at 11:55 p. m., August 20.

Abstract of Autopsy Findings (Doctor Connor).—The material findings in this case are those of a very extensive encephalopoliomyelitis. The specific lesions are marked and present generally along the cord and brain stem and extended into the basal nuclei. These consisted of the usual degenerative changes of nerve cells and a perivascular infiltration associated with a slight meningitis. There was in addition a marked edema and congestion of the lungs. Incidental findings were an early ulcerative colitis and appendiceal abscess. The connection between the last two lesions and the disease of poliomyelitis is not evident.

DISCUSSION

Dr. J. C. Geiger, Professor of Epidemiology: Certain epidemiologic characteristics of acute anterior poliomyelitis are apparently well established, yet the nature of the virus remains unknown. Moreover, the reports of the prevalence of this disease indicates, at least in California, that it is continually spreading with the occurrence of outbreaks in fairly short intervals, namely, 1925, 1927, and 1930. The method of propagation, however, remains an enigma and offers a distinct challenge to public health authorities. One of the important phases of the disease and so difficult of recognition, is the number of abortive cases that must occur in any epidemic. Admitting this to be a fact, three points present themselves for consideration. Either the contagiousness is exceedingly low if reported cases are to be regarded as a criterion, or the latent immunization to cases of the general public exceedingly high, or the carrier produced by contact to cases of comparatively little moment in the spread of the disease.

According to the figures of the California State Department of Public Health, the outbreak in California in 1930 began to be statistically manifest early in May, the curve rising rapidly to a peak in July (ninety-five and more cases reported daily), a sharp drop in August (sixty and less cases being reported daily), with a gradual climb to a second peak in October (eighty-five or more cases being reported daily) with an abrupt decline in November, 1707 cases being reported for the ten and one-half month period. The curve of the 1925 outbreak, 821 cases, reached its peak in July with a sharp decline in August and September and a gradual leveling off, with a small uplift in November. The curve of the 1927 outbreak, 1295 cases, had a series of peaks in July, in August, and in September, with a small uplift in early November. Two centers of population suffered most, Los Angeles and San Francisco in the outbreak for 1930. The second peak in the curve for 1930 probably represents the San Francisco outbreak, for cases began to be reported there much later than in Los Angeles. Curiously, only a small number of cases were reported in Oakland, just across San Francisco Bay.

The age incidence for 1930 presents some interesting data. For instance, 334 cases were reported between the age limits of 15 to 35, approximately 20 per cent of the total; 1000 cases between 0 and 10 years; 301 from 10 to 15; three from 35 to 45; three over 55, and the remainder classified as adult unknown or at present in doubt.

The George Williams Hooper Foundation for Medical Research of the University of California, which distributed convalescent poliomyelitis human plasma, report that between the period of June 1 to December 1, 1930, over 19,750 cubic centimeters were given to physicians and institutions for administration to patients. Ten thousand six hundred and fifty cubic centmeters of serum were given to physicians in San Francisco County alone. The number of donors was two hundred and two, and thirty-eight were bled twice and nine three times during the epidemic period. It is, indeed, fortunate that research institutions have taken up the burden of supplying convalescent poliomyelitis human serum since this important health department activity has been quite neglected, though Netter advocated its use in 1910. The value of such serums is apparently well established and of practical therapeutic importance even in the absence of controls. The prophylactic use of convalescent serum for susceptible contacts cannot be advocated until the supply can meet the drastic needs of epidemic periods.

Dr. Frederick Eberson, Assistant Professor of Medicine: These cases illustrate the protean nature and therapeutic difficulties in acute poliomyelitis. Once the diagnosis has been made, the matter of treatment resolves itself into immediate action demanding fairly large doses of convalescent poliomyelitic serum. There is no certainty with regard to the action of such serum in universally preventing paralysis. In many instances the desirable effect has been achieved; in others, despite the promptitude and adequate dosage, the unfortunate sequelae have not been prevented. It is clear, however, that once paralysis has set in, no amount of serum will avail.

Clinically, poliomyelitis presents the most baffling problems prior to the development of well-recognized signs of paralysis. As an aid to diagnosis, the lumbar puncture is of indispensable value, but this procedure cannot always be followed in practice. There are frequent instances where repeated punctures are necessary before the typical changes in the cerebrospinal fluid become apparent. Meningeal involvement may be ushered in by extreme hyperirritability, headache, or the classical "spine sign." This sign is generally described as a Kernig, perhaps inaccurately. The "spine sign" is distinctly an act of *voluntary resistance* on the part of the patient to any manipulation likely to cause anterior flexion of the spine. Unlike the Kernig or Brudzinski sign, there is no question here of a "reflex." The intense headache, photo-symptoms and signs of mild or moderate upper respiratory disturbances, or muscle and joint pains may occur in any variety of combinations or as single manifestations. In the majority of cases one meets an impasse because the history and findings suggest a simple "cold" or "influenza," or "gastro-intestinal upset." A large group also passes through a vague syndrome that goes unrecognized, and suddenly blossoms into a major or minor paralysis. Most remarkable is the disproportion between the appearance and the complaints of the patient and the actual clinical findings such as temperature or pulse changes. The observation in my experience has suggested to me the value of searching for a localized pain in the spinal column associated with the typical "spine sign." In several patients the forward tilting of the head occasioned a sharply localized pain at varying levels in the cord, suggesting the type of paralysis that might be expected from the area involved. The observation is probably not new, but can be used clinically as a guide to the subsequent course of the disease.

The beneficial effects of serum are doubtless contingent upon bringing to the regions involved a sufficient amount of immune substances. On theoretical, as well as practical grounds, the serum should be brought into contact with the nervous system by the most direct route. Repeated intraspinous injections alone or in combination with intravenous doses would be ideal. The intramuscular route, following the usual lumbar puncture for diagnosis, serves after a fashion to this extent, inasmuch as the permeability of the choroid plexus is increased and the immediate effects of the serum are thus enhanced. Under present conditions we are at a disadvantage, owing to the fact that the available serum is not exceptionally potent. The serum of choice is that which is obtainable from immune monkeys, but scarcity of supply is a deterrent. In severe cases, however, the intraspinous and intramuscular injection of such serums in smaller doses would be worth while.

The pressing problems in poliomyelitis today are and must be concerned with the diagnosis and the development of methods for concentrating serum from all available sources; with the serious problem of detecting carriers of the disease; and with newer methods of evaluating the susceptibility of mass population by a study of the serum antibodies. That our present avenues of approach to these difficulties are meager and inefficient is self-evident. The future may yield better things in the light of intensive study that is now in progress in different parts of the world.

Rocky Mountain Spotted Fever — Gold Medal Awarded Dr. Roscoe R. Spencer.—Dr. R. R. Spencer United States Public Health Service, was awarded the gold medal by the American Medical Association in annual session at Detroit in June 1930 for original work in the preparation of a vaccine against Rocky Mountain spotted fever.

Prevention is the highest goal of scientific medical inquiry. A five-year record of practical prevention of Rocky Mountain spotted fever achieved by Doctor Spencer was the basis for the award of the medal. Rocky Mountain spotted fever is a disease of the northwestern part of the United States, conveyed to man by the bites of wood ticks which appear with the first warm days of spring or as soon as the snow melts on the south slopes of the canyons. Skin eruption appears about the third day of fever, first on the wrists, ankles, and back, and then over the whole surface of the body. In some localities the disease is mild while in others it is very fatal, causing death from the seventh to the tenth day of illness.

In one large locality the disease caused the death of 85 per cent of adults who contracted it in the twelve years 1917-1928. In that locality the quest for a preventive inoculation has gone on at the hands of Dr. R. R. Spencer of the United States Public Health Service year after year until, in 1924, came the discovery the results of which were presented to the American Medical Association.

In a community of 1208 persons, 496 received the prophylactic inoculation and among these there were three mild cases which recovered. But among the 712 who did not receive prophylactic inoculation there were nine severe cases, seven of whom died.

In a general population of about 15,000 people 1992 received prophylactic inoculation and among these there were five mild cases, all of which recovered. But among those of the population who did not receive prophylactic inoculation there were twenty severe cases, seventeen of which died.

Sheep herders constitute an occupational group especially exposed to ticks. In such a group of 274 persons ninety-four who were protected by vaccination remained free of infection, while 180 who were not protected there were thirteen cases. In another such group of 283 persons, ninety-nine who were protected furnished only one case, while 184 who were unprotected furnished nine cases.

Laboratory workers engaged in the hazardous search of the preventive (physicians, entomologists and laboratory attendants) have constituted the group especially exposed to infected ticks and infected laboratory animals and since 1902 the number of persons so exposed has been seventy-five.

Until 1924 these workers knew no special prophylactic inoculation, and of sixteen of the earlier workers so exposed six contracted the disease and all died. But since 1924 there have been fifty-nine laboratory workers all of whom have received prophylactic inoculation and among these there have been seven cases all of whom recovered, except one who received only one of the two requisite prophylactic doses.—*United States Public Health Service.*

BEDSIDE MEDICINE FOR BEDSIDE DOCTORS

An open forum for brief discussions of the workaday problems of the bedside doctor. Suggestions for subjects for discussion invited.

DIFFERENTIAL DIAGNOSIS BETWEEN SYPHILITIC AND NONSYPHILITIC ERUPTIONS

Moses Scholtz, Los Angeles.—After a short but severe dictatorship of the laboratory in clinical medicine, the art of clinical diagnosis seems coming back into its own. It is my steady conviction that dermatologic diagnosis is less dependent upon the laboratory report than that of any other branch of clinical medicine. This is well illustrated by the comparative ease with which the clinical diagnosis of skin syphilis can be effected with correct diagnostic technique, without or in spite of the negative laboratory report.

This holds true in regard to all types of syphilids with the exception of the primary lesion, diagnosis of which can be often suspected but cannot be made definite without positive darkfield examination.

The syndrome of characteristic morphologic traits of cutaneous syphilids was known to old clinicians who called them "specific stigmata."

It is the purpose of this short sketch to portray and enumerate these traits. The color of syphilids is properly termed "dull red raw ham" with a tendency in later stages to turn brownish or "copper color." This shade of color is not an exclusive property of syphilis and may be observed to a various degree in other infectious granulomata, much less common, such as sarcoids, ulcerating tuberculids, mycotic granulomata. Yet the presence of this color should always suggest to the clinician the possibility of syphilis.

A general statement can be made, again with the exception of the primary lesion, that the earlier the syphilitic lesions are, the more numerous and more superficial they are; and vice versa, the later, the less numerous and deeper they are.

It is also characteristic of cutaneous syphilids that they are imbedded and located deep in the skin rather than on the skin. This differentiates cutaneous syphilids from many superficial scaly dermatoses, which may resemble them morphologically, such as tineas, seborrhoic dermatoses, pityriasis rosea.

It is rather typical of cutaneous syphilids to present to the palpating finger, a soft velvety feel which is so different from the dry, harsh feel given by many scaly dermatoses, such as psoriasis, lupus erythematosus, squamous eczemas, etc.

Another morphologic trait of cutaneous syphilids is the tendency to form flat lesions. This is well epitomized in flat syphilitic condylomata, but is also easily demonstrable in the large group of nodular late secondary syphilids.

One of the most striking morphologic traits of late syphilis is the serpiginous or kidney-shaped border. This border, like the "raw ham or copper" color is seen occasionally in other infectious granulomata; nevertheless it is so much more numerous in syphilis than in other dermatoses that it can be well regarded as a specific feature.

It can be definitely stated that bullous and vesicular eruptions are never seen in acquired syphilis, but are not uncommon in hereditary. Late syphilids, particularly gummata, have a strong tendency to ulcerate, producing characteristic ulcers of serpiginous border, with a greasy, dirty lardaceous base, covered with a thick grayish, greenish discharge, drying in heavy crusts and showing no bleeding on teasing the bottom of the ulcer (an important differential feature from epitheliomata). These ulcers, on involution, leave characteristic soft, pigmented or depigmented, atrophic scars of wrinkled cigarette paper effect. As to distribution, early secondary papular syphilids preferentially attack the face and forehead (corona veneris), but also frequently attack the trunk.

As a rule, syphilids are not itchy, but exceptionally they are. Neither a suggestive history nor positive Wassermann are of decisive diagnostic significance in clinical diagnosis of cutaneous syphilis, because the history is often confusing and unreliable. Wassermann has much more diagnostic value if positive than negative, but even then it is inconclusive and merely means that the patient is luetic, but it does not necessarily prove that the skin lesions are specific since a luetic patient may contract any other dermatoses.

As to diagnostic errors in diagnosis of cutaneous syphilis, there are more errors of commission than of omission. There are more cases in which eruptions which are not specific are diagnosed as such than those in which the specific nature of the skin lesions is overlooked. Among nonspecific dermatoses that are often taken for syphilis are pityriasis rosea, annular psoriasis, erythema induratum (Bazin), blastomycosis, seborrhoic dermatoses, tinea circinata, lupus vulgaris. On the other hand, the types of lues which are most commonly overlooked are: primary roseola (if the patient is examined in a dark or chilly room); palmar and plantar syphilids, if not looked for; follicular pustular syphilids, which looks so much like acne; and late squamous palmar syphilid, which so much simulates squamous eczema.

Lues is notoriously a great simulator and imitator of skin eruptions. Yet the presence of several or all specific morphologic traits suffices in a majority of the cases to supply, without laboratory support, a positive or at least suggestive clinical diagnosis of cutaneous syphilis.

C. J. Lunsford, Oakland.—The paper of Doctor Scholtz again properly calls to our attention the importance of a knowledge of the clinical features of the cutaneous syphilids. Too much stress, however, cannot be laid on the importance of the darkfield examination in cases of penile sores. The immediate diagnosis of early syphilis is too important to rely on less than exact laboratory procedure.

In the presence of the florid secondary eruptive period of syphilis there is usually a generalized bilateral and symmetrical eruption of lesions, the outstanding features of which are: (1) the grouping; (2) the polymorphism; and (3) the induration. The picture could not be otherwise, since the spirochetes are released and thrown into the blood stream in successive showers and act as embolic plugs of the branching cutaneous blood vessels. This plugging of the ends of the smaller blood vessels explains the grouping which is so characteristic. Since the resultant lesions develop slowly, the first have not disappeared before the succeeding ones appear. This explains the phenomenon of polymorphicity in which we see macules, papules, pustules, and pigmentation at one and the same time. Induration, sensed by the palpating fingers, is the necessary consequence of the swelling and the proliferation of the connective tissue and epitheloid cells, combined with the plasma cell and lymphocytic infiltration about the small blood vessels.

Inasmuch as secondary syphilis is a generalized constitutional disease, headache, joint pains, and a feeling of malaise, and especially a generalized adenopathy, are common features of the condition. Palpable epitrochlear, axillary and posterior cervical glands, together with a penile sore or a chancre scar combined with the above mentioned features, practically clinches the diagnosis of secondary syphilis.

The picture of the late cutaneous syphilids differ markedly from the florid secondaries. This difference is due to the change of so-called latency. In this stage, the body cells have been educated to violently resist the presence of the active spirochetes. In consequence the resultant inflammatory reaction produces a tumor or tumors, depending on the number of embolic-plugged blood vessels involved. Such lesions are in general few in number, unilateral and asymmetrical. They usually appear at the sites of easy trauma, as the forehead, the nose, the elbows, the knees, and the palms and soles. They may remain nodular or they may ulcerate. They present certain basic features which are well to remember. The papules are grouped in shape of horseshoes; they are indurated; they are well separated from the normal skin; the papules develop by central healing and peripheral extension; the scar is thin, white, atrophic and noncontractile; the pigmentation following healing is deep and persistent.

None of these characteristics alone can be relied on to make the diagnosis of late syphilis because, as Doctor Scholtz states, any one of these characteristics may be present in any of the chronic infections, granulomata, such as tuberculosis, leprosy, cancer, or blastomycosis. It is in properly considering and evaluating these features in varying combinations that they are of pathognomonic importance, and, according to Stokes, outrank the Wassermann in diagnostic value.

* * *

Stuart C. Way, San Francisco.—Syphilis has been described as the "great imitator," and practically every form of primary and secondary cutaneous lesion may be simulated more or less closely by a syphilid.

Diverse types of lesions may be present from time to time in the same case, some obviously syphilitic, others so closely imitating different forms of dermatitis as to render the diagnosis difficult.

The majority of the syphilids have a peculiar tint which has been aptly described as "copper" or "ham" color. When the syphilid is pressed by a diascope and the blood squeezed out, a brownish yellow stain remains, due to the cellular deposit, but when the pressure is removed and the blood returns, the lesion assumes a redder tint, somewhat resembling ham.

With the exception of the early roseolar and pigmentary lesions, the syphilids as a rule are definitely indurated from the presence of the dense cellular infiltration in the corium.

The early syphilids come out comparatively rapidly and, after persisting for a variable period, disappear spontaneously. The late syphilids, on the other hand, develop more slowly and may persist indefinitely.

The syphilids vary in their configuration and arrangement. They usually remain discrete, but may coalesce to form circles, serpiginous or gyrate figures, or a ringed lesion may develop by peripheral extension and central involution, so that by a repetition of this process concentric rings may be formed. Again, the lesions may be grouped in clusters or a number may be arranged around a single larger lesion (corymbose syphilid) or they may be closely aggregated in irregular sheets.

The early syphilids are usually distributed symmetrically and involve especially the face, trunk, and flexor aspects of the limbs, or they may be widely disseminated over the whole cutaneous surface; the intermediary lesions have a tendency to be grouped in a circinate or corymbose manner; the late lesions are local, asymmetrical, and confined to one or more regions. Often there is a history of traumatism preceding their appearance.

Spirochetes may be found in all of the cutaneous syphilids, being profuse in the early lesions and scanty in the tertiary stages. We frequently demonstrate this for the students at the Stanford skin and syphilis clinic.

A genital chancre must be differentiated from chancroid, herpes, and scabies. Marked inguinal adenopathy is rather suggestive, but frequently a darkfield examination is alone capable of determining whether the lesion is luetic.

Secondary cutaneous manifestations must be distinguished from:

1. An eruption of the erythema multiforme type where the lesions remain discrete, are darker in color and are present chiefly on the face, backs of the hands, wrists and front of the legs.

2. Drug rashes following the ingestion of copaiba, cubebs, belladonna, antipyrin, etc., which show a more rapid development, are of a more vivid red or scarlet color, quite itchy as a rule, and of shorter duration.

3. Pityriasis rosea, in which the lesions are scaly. In many cases the typical oval patches with a pinkish scaly border and a buff-colored center can be detected, and there is a history of the characteristic "Herald patch."

The evanescent wheal of urticaria, with the accompanying itching and the punctate scarlet redness of scarlatina, are so unlike the macular syphiloderm that confusion with these diseases is scarcely possible.

Palmar and plantar syphilids are not uncommon and have to be distinguished from psoriasis, dermatophytosis, and dermatitis venenata, which is often of occupational origin.

Psoriasis of the palms is extremely rare and usually associated with a profuse psoriatic eruption elsewhere.

Dermatophytosis not only may involve the palms and soles, but also the dorsal surfaces. Vesicles usually characterize its onset and there is intense itching, which lessens during the later stages. Fungi may be demonstrated in the scales or by cultural methods.

Dermatitis venenata is more sudden in onset, involves first the dorsum of the hands, is more inflammatory and often limited to the exposed parts.

Late nodular syphilids have to be differentiated from tuberculosis cutis, lupus erythematosus, and epithelioma.

Tuberculous lesions generally begin in early life and evolve more slowly. Tuberculous ulcers have an ill defined or ragged border and are shallow. They are progressive and unaffected by antiluetic therapy.

In lupus erythematosus the lesions are of a brighter color and rarely infiltrated, while in late lues they are of a more brownish hue and definitely indurated. The distribution of lupus is quite characteristic, usually involving the cheeks, nose, and scalp.

Epitheliomata of the rodent ulcer type have a hard and cartilaginous rolled pearly edge which may be nodular or continuous. Its development is much slower than a syphilitic ulcer and may have been present for years.

The tertiary lesions of syphilis generally involve the soft parts, especially the thigh and calf regions. They may occur upon any region, however, and are not uncommon upon the face and flexor surfaces of the arms.

A gumma is usually slow in developing, persistent in its course, with a tendency to progress and invade the contiguous tissues.

While darkfield examinations and Wassermanns are more or less confirmative when positive, their actual value when negative is a matter of conjecture. Most experienced dermatologists agree that in such cases the skin manifestations themselves give us a more accurate index upon which to base our diagnosis.

Farmers Have Best Eyesight, Occupational Survey Reveals.—Farmers have the best eyesight, business and professional people have the worst and skilled workmen have the greatest percentage of uncorrected visual defects of any occupational groups, according to a statement issued by the State Health Director, Dr. Andy Hall, which is based upon the examination of 100,000 native born white males in this country. The rate of uncorrected visual defects found among the skilled workmen was 29 per cent higher than in the business and professional groups and 100 per cent higher than among farmers.

The rate of defective hearing among skilled workmen stands 31 per cent above it in the business and professional group and 23 per cent higher than in the agricultural group, it was said. The frequency of carious and lost teeth is about equal among farmers and skilled workmen, but rises to 48 per cent above that in business and professional groups, Doctor Hall pointed out.

The habitual use of laxative occurs 10 per cent more frequently among skilled workmen than among professional and business people and 32 per cent more frequently than among farmers, according to Doctor Hall's statement, which follows in full text:

"These findings are of the utmost significance in connection with health programs and especially with accident prevention projects. Uncorrected defects of vision and reduced acuteness of hearing among skilled workmen would certainly increase their proneness to accidents. This is the very group which finds itself subject to the greatest occupational accident hazards. Thus defective vision and dullness of hearing in skilled workmen make the risk to accidents even greater than their occupations would otherwise involve.

"The high rate of visual defects among professional and business people, 56.5 and 51 per cent respectively, even though largely corrected by glasses, suggests that prolonged use of the eyes in close work is wearing. It likewise emphasizes the importance of proper lighting facilities in schools, offices and business houses. Furthermore, it shows that sight conservation programs are justified by conditions and should be continued.

"The professional group studied included doctors, lawyers, writers, clergymen, teachers, engineers, etc., while the business group included executives, bankers, salesmen, clerks and the like. In the skilled workmen group were members of twenty occupations such as machinists, printers, electricians, barbers, plumbers and bricklayers.

"The medical examinations were performed by 9000 doctors in all parts of the country. The examinations were undertaken as a life conservation project by forty different life insurance companies who offered the service as a periodic health inventory to policyholders.

"The analysis of the data was done by statisticians of the United States Public Health Service and was not a feature contemplated in the original project by the insurance companies."—*The United States Daily,* September 24, 1930.

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Responsibility for Statements and Conclusions in Original Articles.—Authors are responsible for all statements, conclusions and methods of presenting their subjects. These may or may not be in harmony with the views of the editorial staff. It is aimed to permit authors to have as wide latitude as the general policy of the journal and the demands on its space may permit. The right to reduce or reject any article is always reserved.

Contributions—Exclusive Publication.—Articles are accepted for publication on condition that they are contributed solely to this journal.

Leaflet Regarding Rules of Publication.—California and Western Medicine has prepared a leaflet explaining its rules regarding publication. This leaflet gives suggestions on the preparation of manuscripts and of illustrations. It is suggested that contributors to this journal write to its office requesting a copy of this leaflet.

EDITORIALS*

HAS MODERN-DAY UNREST AND PUBLICITY INDUCED SANTA BARBARA COUNTY, LEGALLY OR ILLEGALLY, TO ENGAGE IN STATE MEDICINE?

Whither Is the World Drifting?—A large proportion of thinking people are nowadays asking themselves whither the world is drifting. For everywhere there seems to be more or less unrest, associated on the one hand with disturbed social and economic conditions, and on the other with the insistence by one section of the population that the remaining portion of the people shall live according to the laws and mandates which come from legislative or propagandist sources. The picture varies with continents, races and nations, but at the present time none of these but have their troubles.

* * *

The Place of the Healing Art Profession in this Whirlpool of Unrest.—In this whirlpool of unrest, so old and placid a guild as that of the healing art, is also having its greater and lesser difficulties. It is generally conceded that the practice of medicine is individualistic and that mass production in medicine can only lead to mediocre medical service. In our own country the problems of the medical profession are made more difficult because the phenomenal material progress of the United States during the last several decades seems to have been more or less dependent upon a centralization of resources and power, with mass production as the outstanding result to be secured thereby. This new era has brought to the fore groups of lay leaders who through their own great success in the business and manufacturing worlds have come to believe that the same procedures which brought them their personal successes could be made to apply in most all other lines of human endeavor.

* * *

The Recent Outburst of Mr. Henry Ford.—Such leaders are not reluctant in pushing forward their views. Witness, for instance, that esteemed automotive representative, Mr. Henry Ford, who in recent years seems to have had no hesitancy in lecturing the medical and other professions and businesses, even though his actual knowledge of their work and responsibilities, in more instances than one, might perhaps best be represented by a large or relative zero. Unfortunately, many of his statements will be accepted as proven facts by those of the laity who have neither the inclination nor the time to investigate and to determine whether or not Mr. Ford's viewpoints were correct or not.

Henry Ford's recent interview about the medical profession and its delinquencies was quite a newspaper feature story and received much publicity in lay publications. (See editorial in CALIFORNIA AND WESTERN MEDICINE, July, 1929, page 59.) The newspapers which published that syndicated article naturally did not put forward later on the contradictory facts which would have shown that Mr. Ford was in error in much of what he thought and said. The end result of that interview was the acceptance of Mr. Ford's opinions by a large number of the lay public. With such publicity conditions obtaining, it is not to be wondered at that a considerable group of lay writers, who by the use of their pens earn their bread and butter, also should have seized upon different phases of statements made by Mr. Ford and others to further exploit and accentuate the viewpoints which had been brought forward.

* * *

The Medical Profession Will Continue to Carry On in Service.—Fortunately for the world, the rank and file of the medical profession are little disturbed by such outbursts. Members of the medical profession everywhere will continue to give service to their lay fellows in the light of the best knowledge at hand, and will unostentatiously carry on in their efforts to prevent diseases and to ameliorate and cure diseases.

* * *

What of the Future Outlook?—If the conditions above noted showed no further variations, all would be well, and there would be little need for worry, since history has established that in good time all false prophets are discovered and that the propaganda of such is eventually discarded.

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* Editorials on subjects of scientific and clinical interest, contributed by members of the California Medical Association, are printed in the Medicine Today column which follows.

Unfortunately, however, the world is moving so fast in its present unsettled state, and so many of those in temporary authority in civic and other human activities are so satisfied with their personal viewpoints, that they show no hesitancy in trying to put into practice some of their theories on problems which they have deluded themselves into thinking they have solved. All of which brings us to an example of an attempt to put into practice a theory which involves the practice of medicine, and which experiment is taking place before our eyes in California at the present moment.

* * *

Santa Barbara County Supervisors Inaugurate State Support of Hospitalization of Private Citizens.—Here in California, down in Santa Barbara County, we are having the opportunity of witnessing an experiment in which public moneys from taxation sources are seemingly being used by the county board of supervisors in a non-public function, in that these public officials are offering to non-indigent citizens of Santa Barbara County hospitalization at "rates less than cost." Perhaps the honorable supervisors who passed an ordinance or rule permitting themselves to do this will pass an ordinance giving themselves the right to spend public moneys to supply non-indigent citizens with clothing, shoes, bread and foodstuffs also at "rates less than cost"! The expenditure of public moneys would certainly seem to be as proper for these latter needs just mentioned as for the provision of hospitalization facilities for private, non-indigent citizens. From the legal standpoint, such allocations and expenditure of public funds would seemingly be as sound in the one instance as in the other.

The editor is not a lawyer, but he believes that the board of supervisors of Santa Barbara County, in taking the action they did in providing certain hospitalization provisions for private, non-indigent or non-pauper citizens, could very properly be brought before the courts to show on what authority in the basic law of the constitution of California, some of their expenditures in hospitalization experiments were being made. The state constitution gives the county units the right to maintain county hospitals and to support the same through public funds, but it is also our impression that it is provided that such facilities shall be extended only to indigent citizens. It will be interesting to watch the outcome of the experiment in Santa Barbara County in this—what might be called an initial experiment in state medicine in California. It is true that at the present time the experiment is only a small beginning, but the legal and other principles involved are not small. The importance of this strange departure in Santa Barbara County, both for the todays and the tomorrows, must be evident to all physicians in California. For the time being, members of the Santa Barbara County Medical Society are of course especially involved and will no doubt give this new problem which has arisen in their own county their earnest consideration. For action of the Santa Barbara Society on some of these matters, see report of that society in this number of CALIFORNIA AND WESTERN MEDICINE, pages 130 and 131.

* * *

The Letter which the County Supervisors Issued to Santa Barbara County Citizens.—The letter which was sent out by Mr. C. L. Preisker, chairman of the board of supervisors of Santa Barbara County, is very interesting. Because of its importance the copy which has come to the editor will be reproduced in part below. The editor has taken the liberty to italicize several sentences. Members of the California Medical Association are urged to read and ponder on these quotations, which follow:

> The County of Santa Barbara is offering its employees *and their families* hospital, ambulance, x-ray, medicine, dressing, laboratory service, and everything that can be furnished at Santa Maria Hospital at the following rates:
>
> 1. Persons earning less than $125 per month, 50 cents per person per month and not over $1.50 per month per family.
> 2. Persons earning $125 per month and less than $200 per month, 75 cents per person per month and not over $2.25 per month per family.
> 3. Persons earning $200 or more per month, $1 per person per month and not over $3 per month per family.
>
> This service includes hospital service for operations, maternity cases, accidents, and also includes services for accidents and illness starting the month after leaving county employ, unless the person is discharged for a cause. . . .
>
> For the county to lose a minimum, it must not only get its patients well as soon as possible, but must keep them well. *The rates are less than cost,* and are based on the ability of the person to pay, *as hospitalization is coming to be looked upon somewhat as a public function.* . . .
>
> *This service is open to groups such as teachers, employees of different business houses or corporations, unions, or any logical group applying for the same* where ten or more apply, at five per cent higher charge or rate than the above schedule. *It is also open to individuals,* but the county reserves the right during the first year to refuse hospital service for operations and treatment for very apparent chronic ailments existing at the time the individual applies. It would not be fair to the county for $1 per month to take on an individual sick person who immediately needs a very expensive operation or treatment. . . .
>
> *An attempt is being made to make arrangements with various doctors in the community to furnish complete medical and surgical service at a fixed monthly charge. This is insurance against large bills for sickness.*

* * *

Query for Members of the California Medical Association.—Each member of the California Medical Association might well ask himself what he thinks of all this and what he thinks should be done in these premises. Members of the Association and its county medical societies are urged not to be backward in sending in their suggestions to the central office of the Association. The Council of the California Medical Association will then be in better position to decide on its course of action.

HOW PUBLIC HEALTH EXHIBITS AT COUNTY FAIRS MAY OVERCOME PSEUDOSCIENTIFIC NEWSPAPER AND RADIO PROPAGANDA

We Live in an Age of Propaganda.—Ours is a time when the dissemination of information—be such information of fact or rumor, or of true or untrue nature—has reached a stage when the words stupendous and colossal can be most aptly applied thereto. The loudest or more persistent speakers, or rather the individuals or persons who best know how to use their resources to get the large audiences, are those who see their statements, garnished as they usually are in most enticing form, in many instances most widely accepted.

* * *

Recent Advancements in Science Seem to not Lessen the Credulity of the Human Race.—It is a remarkable fact that during the last several decades, in a period when scientific medicine may be said to have made more progress than in early times took place in whole centuries, that the publicity given to such scientific researches has seemingly had little effect on making all supposedly intelligent lay persons turn to well-trained practitioners of the healing art, when suffering from sickness or injury. It is a constant source of astonishment to busy physicians to note how many patients blandly confess that for varying periods they have been under treatment by cultist practitioners; or who blandly ask specialists whether there is any objection to some form of manipulative or similar therapy being taken at the same time from cultist practitioners.

* * *

The Purpose of Healing Art Laws.—It is often hard to explain these and other inconsistencies.

Could it not be said that such experiences are the result, in part, of some of the cultist so-called health column publicity in the daily press or of some of the misbranded and fraudulent cultist or proprietary medicine propaganda which is creeping in more and more on the radio air? That such conditions should obtain seems the more difficult to understand because the members of the regular profession have been almost entirely responsible for the basic medical practice acts which lay down standards of adequate preliminary and professional education and training. Such medical practice acts were and are intended to have as their basic function the protection of the public from incompetent physicians. Yet the non-sectarian profession has had to battle fiercely for these laws which have as their basic purpose the protection from incompetents, not of itself, but of the lay public.

In most of the states the legislatures of the commonwealths of our Union have seen fit, in spite of the strenuous opposition of the organized practitioners of non-sectarian medicine who have protested at the debauchery of training standards, to grant licensure privileges to cultist groups of the healing art. Most of these cultist licensure laws lay down standards of education and training far below those insisted upon by the Association of American Medical Colleges and by the Council on Medical Education of the American Medical Association.

* * *

California Presents a Pathetic Example in Healing Art Licensure.—No better example of such deplorable violation of proper standards of educational and professional training need be looked for than can be found in our own State of California. In the December issue of CALIFORNIA AND WESTERN MEDICINE, page 915, was printed one of the monthly reports of the California Department of Professional Standards, in which department, under Division No. 1, the Board of Medical Examiners has a place.

Under Division No. 2, the figures showing the number of licentiates who in the last decade have been granted licenses as "doctors" of the healing art of one particular cult were given. Almost three thousand of such have been licensed in California in the last ten years!

In some of the Sunday metropolitan newspapers of California may be found the alluring and come-on advertisements of some of the schools of that cult. From time to time illustrated single, double and triple column reading notices have appeared in the news columns of newspapers, playing up "perfect infant," "most beautiful female back" and what-not side-shows held at the annual or other sessions of the societies of such cults. To these "beautiful female back" shows the members of the laity are often invited.

In another cultist group, prize contest announcements were sent out to the high schools, inviting all students to participate. The daily press recurrently made mention of the contest, and much free or paid for publicity was thus secured for that cult. The award in one such contest, if our memory serves us well, was one year's free tuition in a school of the cult. This award was granted to the high school student who gave the best reasons why a young man should choose as his life work the practice of the profession of that particular cult.

* * *

What One California Cultist Initiative Law Sanctions.—As previously stated, one of these cultist groups has licensed about 3000 practitioners of that cult in California in the last ten years or so. That is a large number for even so large a state as California to assimilate, digest and take unto itself. The law bringing into existence the examining board of that cult contains many defects, but was passed as an initiative act, and therefore can only be amended by the people. Yet that law, sanctioned several years ago by vote of the electors of California, makes it obligatory for the examining board of that particular cult to accept the diplomas of practically all chartered schools of that cult, without regard to the quantity or quality of the courses given. The language is so loose that diplomas of any kind of a state-chartered school of that cult must be accepted. The examining board of that cult cannot step in and inspect the schools in an effort to maintain the standards which even its own members favor. And this in California, the sixth state in the Union, with its 1930 United States census population of 5,672,009 persons. Truly a remarkable state of affairs.

* * *

How a "Health Column" in One of the California Newspapers Operates.—Nor is the above citation all. For in one of the well-known newspapers of California, a publication with advertising figures comparing favorably with those of papers of cities such as New York and Chicago, there is a so-called health column in one of its magazine sections flanked by and including a surprising number of what seem to be misleading advertisements. This particular health column for the last several decades has been one of the big revenue producers of that portion of this particular newspaper, and the present editor of its columns is said to maintain a suite of offices covering almost the entire floor of one of the large buildings in that particular city, where he supposedly practices the healing art according to the tenets of his cult.

* * *

Why Lay Citizens So Often Choose Poorly Trained Licentiates.—The above are some of the facts which exist and with which California physicians are generally familiar. Is it any wonder that, with such iteration and reiteration of cultist propaganda and of stuff of similar nature appearing constantly in the newspapers and coming daily over the radio air, that then, when sickness and injury come to them, hundreds and thousands of citizens innocently choose poorly rather than well trained practitioners of the healing art?

* * *

Difficulties in Trying to Improve Such Conditions.—What can be done about conditions such as have been noted? The answer ofttimes must be: not very much. For the State of California, once having granted legal licenses to practice the healing art, cannot recall such licenses except for legal causes; and the electors having voted a deplorable set of minimum standards for licensure of certain cults, only the people by again registering their votes in favor thereof can raise or better those deplorable standards.

So, also, it may be taken for granted that the newspaper above commented upon will not change its ways, because all publishers nearly always wish their papers to be run at a profit, and medical advertisements such as are referred to help make for such profits. It is perhaps true that if every member of the county medical association of the city in question would stop his subscription for that particular newspaper, and take part also in a campaign to have friends and patients also drop their subscriptions, that the publisher of that particular paper perhaps might be tempted to "stop, look and listen." However, such a coördinated and almost unanimous effort by all the members of that particularly large county medical society is a something which is altogether too much to ask or expect.

So that when it is all said and done, there is little for the members of the non-sectarian or regular medical profession to do, other than to follow the course laid down in the past—of practicing scientific medicine to the best of their ability and of doing right and fearing not.

However, from the standpoint of preventive medicine, the regular or non-sectarian profession does owe it to itself and to the public to enlighten the laity concerning health and concerning disease prevention. Such publicity the profession has given in the past through publication of journals on hygiene and of miscellaneous papers. Are any more effective methods available?

* * *

A Notable Experiment by the Nebraska State Association.—More recently a unique health plan and campaign has been tried out in Nebraska, largely under the leadership of E. R. Hays, M. D. For the last half dozen years or so, under Doctor Hays' guidance, the Nebraska State Medical Association has been operating exhibits and health education programs at the state and other fairs in Nebraska. Doctor Hays read a paper on the subject at the 1929 American Medical Association conference of state medical association editors and secretaries at Chicago. The editor of CALIFORNIA AND WESTERN MEDICINE was so impressed therewith that a budget provision was made by the Council of the California Medical Association for initiating this work in California. The standing committee on health and public instruction was requested to make a further study of its feasibility in California, and to report thereon to the Council. Because of the important possibilities of such work, this special comment thereon is here made in the hope of enlisting coöperation throughout the state.

In the miscellany department of this number of CALIFORNIA AND WESTERN MEDICINE is also printed a list of the different fairs which are annually held in California. See page 136.

An inspection of that list, with a knowledge of the hundreds of thousands of lay citizens who attend such fairs, at once indicates how valuable this type of publicity could be made in the promotion of preventive medicine and of legitimate public health work.

* * *

Outline of the Nebraska Plan by Doctor Hays.—In a letter to the editor, Doctor Hays discusses his plan, and from it the following excerpts are made:

> The most important thing in a health education project is to have someone head the organization who can visualize the result of a five years' project, and who is able to obtain the coöperation of his fellow

members, capable of organizing all health agencies under his direction, and willing to work. . . . Keeping the profession in line through strong leaders of each division is more difficult than interesting the public.

The lecturers should be instructed never to talk over ten minutes, to use simple terms and constructive arguments. They should talk health, not disease. . . .

In the exhibit division the public is always interested in pathologic specimens, and lectures should be given on the specimens, pointing out that there was a time in the individual's life when this condition which caused his death might have been prevented. Deficiency diseases demonstrated by rats and guinea pigs attract attention and forcibly impress the public with the importance of a balanced diet. . . . .

The Tuberculosis Society, Red Cross, and other health organizations are always glad to furnish exhibits. We have always been careful about excluding commercial houses and life insurance companies from exhibiting. All exhibits should be shown under the name of the State Association, which at all times must have control of the activities of each group. The medical colleges and the state department of health usually furnish educational exhibits on water supply, milk supply, contagious disease prevention, and the value of standardized hospitals. . . .

The State and County Fair plan of educating the public in matters of health is practical and very effective, and for a large state such as yours, with its many resources, a health program could be made one of the most interesting features of the fairs.

In another letter, Doctor Hays also stated that it is advisable that none of the lecturers should be residents in the same communities in which the fairs are held.

* * *

The Nebraska Plan Worthy of Earnest Consideration by the California, Nevada, and Utah State Associations.—It is hoped to have a more complete report on this subject at the San Francisco annual session which will be held April 27-30 next. In the meantime, members of the profession who are interested and who would be willing to coöperate are invited to send their names and suggestions to the Association secretary at the central office in San Francisco. The plan is also commended to the consideration of our colleagues in the Nevada and Utah State Medical Association.

This Nebraska plan of a Health Education project and campaign has been most successfully carried on in that state. It could be made equally valuable in California. With the coöperation which should be given, it could be made a success and be of great value in the states of California, Nevada and Utah.

ASSEMBLY BILL 477 (NEILSON) PROVIDES FOR A STATE MEDICAL LIBRARY

A State Medical Library to Operate Under the California Division of Libraries at Sacramento.—A state medical library with central headquarters in the general state library at Sacramento was first proposed by the editor in the November 1928 number of California and Western Medicine, page 343. It was shown that such an institution could be brought into existence through allocation of excess reserve funds which had accumulated to the credit of the California Board of Medical Examiners. Those excess funds, all of which came from license fees of physicians, were in more or less danger of being transferred into the general funds of the state, to be used on roads and what not. Two years ago a bill was introduced into the legislature to provide for such a state medical library, but failed of passage.

* * *

Revised Bill Introduced by Assemblyman Roy J. Neilson of Sacramento.—On January 20, 1931, Assemblyman Roy J. Neilson of Sacramento introduced a new state medical library bill, as revised by the California Medical Association Executive and Public Policy Committees. Its number on the legislative calendar is A. B. 477 (Neilson). It is hoped that it will go on to passage and signature by the Governor. The subject will be discussed again in these columns.

Probable Cause of Jamaica Ginger Paralysis.—A peculiar form of paralysis, perhaps unlike anything ever known before, has recently afflicted a relatively large proportion of the population throughout some of the midwestern and southwestern states. Definite figures on the extent of the disease are not available, but it is certain that the numbers run into the thousands. At the request of the state health authorities of several states, the United States Public Health Service undertook studies of this condition. The investigations made in some of the stricken areas in Ohio and Tennessee seem to confirm the widespread rumor that the disease is closely associated with the drinking of an adulterated fluid extract of ginger. That it could not be due to the ginger as such became clearly evident from the fact that many of the victims when questioned admitted freely of having used similar preparations for beverage purposes for from one to five years with no other effects than those derived from the alcohol. It soon became evident, therefore, that the condition must have resulted from some unknown poison or from some known poison whose action was so altered through the ginger or the alcohol as to render it unrecognizable; which poison in some way got into a manufactured lot of so-called fluid extract of ginger at a relatively recent date.

The possibility of some known or only partially known poison with its properties so altered as to produce a condition in man heretofore virtually unknown, must be considered. From the very nature of the problem it would seem not improbable that the suspected ginger contained some denaturant, since denatured alcohol might very well have been, and probably was, used in the manufacture of some of the ginger extract, or that it contained some adulterant, since it is known with certainty that adulterants of various kinds have been used for some years in the manufacture of this preparation. The studies conducted by the Public Health Service, though by no means complete, seem to indicate that the latter explanation appears to be the correct one, though the mechanism of the suspected adulterant is as yet not clear.

The exact nature of the pharmacology of the compound which has been found uniformly present in suspected ginger and absent in unsuspected ginger is as yet unknown. From its chemical behavior it appears to resemble a phosphoric acid ester of tricresol, which in itself does not appear to be a well-defined chemical entity. Its resistance to heat, the strong alkali and extreme heat required for its saponification, and the fact that phosphate has been found in the suspected gingers, would make it very probable that it may indeed be the ester suggested.

MEDICINE TODAY

This department of California and Western Medicine presents editorial comment by contributing members on items of medical progress, science and practice, and on topics from recent medical books or journals. An invitation is extended to every member of the California, Nevada and Utah Medical Associations to submit brief editorial discussions suitable for publication in this department. No presentation should be over five hundred words in length.

Preventive Medicine.—Preventive medicine is increasingly engaging the thought of the medical profession and the general public. The major diseases of yesterday are reduced to practical insignificance by modern methods of sanitation and immunization. Protection against typhoid, smallpox, and diphtheria can now be obtained without effort or danger.

Unfortunately the public health movement does not move forward smoothly nor at times intelligently. While every calamity begets reforms, health is a positive condition but many times its opportunities are overlooked. Thrift in expenditures for health matters must be wisely guided. Many of the general public are not aware of how the other half lives. Ignorance in accepted health principles is inexcusable, and the responsibility of health departments to communicate knowledge regarding health principles is obvious. This educational procedure must be based on facts, which facts are usually obtained only by painstaking research work in universities by philanthropic foundations, by health departments, and by governmental agencies. As a result of such research, one can now appreciate and evaluate the effect of sunlight and proper ventilation and, last but not least, the effect of food on disease.

Practically every disease affecting the human being is susceptible of some measure of control. The health officer of the future must assume the responsibility for such control. This does not mean the application of police power, the making and passing of new ordinances or presuming that ordinary quarantine is continuously effective. The medical profession should have intelligent and serious regard for, and give active coöperation to such matters. Likewise, the medical school must realize that in the undergraduate curriculum a place of importance must be admitted to preventive medicine, preferably in the fourth year. Moreover the teachers of medicine, of whatever specialty, should conform their courses to the more recently accepted idea that the duty of the physician is to promote health and prevent disease inimical to health. The health officer is aware that 30 per cent or more of confinements of women occur without medical attendance and that, as a result, the toll of death among about three million women from abortion, miscarriages, premature labors, accidents at delivery, is such that its ultimate effect is felt everywhere. The health officer meets seven hundred thousand cases of communicable and preventable diseases in children; problems of malnutrition, involving at least four millions of the people; problems of physical defects, such as vision, adenoids, tonsils, and teeth, involving at least twenty millions. Preventive medicine, in its larger vision, is the task of making the unfit, fit; and of keeping the well, well. While health work is primarily and generally fundamentally attached to medicine in all of its heterogeneous branches, it is, nevertheless, the specialty of medicine most unappreciated by organized medicine itself. In some medical schools the lack of any attempt to permeate the curriculum with the spirit and methods of preventive medicine and public health procedures may account for the abortive and somnolent regard manifested by their graduates and students.

The endorsement by the medical profession of new work to be attempted in public health is of extraordinary importance. Whenever physicians become interested in public health work, it benefits the public and the profession. This kind of endeavor is by no means a conspiracy against the profession, for they gain more than they give. The modern health department teaches by the written and spoken work, by exhibits, pamphlets and other propaganda, that the acorn of sanitation may be planted in the soil of the large audiences. Two of the modern weapons of health work are bacteriology and epidemiology. Many of our older and sometimes successful health officials and the medical profession regard them as synonymous. As a matter of fact, loimology or loimography (characterized as the sum of human knowledge regarding pestilence) was known long before the science of bacteriology came into existence.

Another problem often neglected is that of midwifery. Infant and maternal mortality is usually 40 per cent incompetence, and lack of information. Dissemination of knowledge combats cults, for cults appeal, like medicine of ancient days, to the mysterious, the undo-able and the unknowable; while modern medicine appeals to the intelligence.

We rightfully revere Louis Pasteur, the real founder of preventive medicine. The revolutionizing of medicine, so ably begun by a chemist, was given great impetus by Tyndall, a physicist, and by Robert Koch, a bacteriologist. Bacteriology has revolutionized isolation and quarantine procedures, particularly by recognition of the fact of the healthy carrier. Theobald Smith focused attention to the importance of transmission of disease by insects. Biggs really modernized public health practice in the United States. Scientific medicine and public health are by no means closed books. The practicing physician should always be in the forefront in the battle against preventable diseases, and be able to answer these questions affirmatively. Is he educating families under his care according to the principles of preventive medicine? Is he securing requests for yearly physical examinations or for administration or some accepted immunizing agent against disease at the right period of life? There is still another side to this argumentative question. Is the health official aiding the physician in this fundamental work of preventive medicine? The health department does not desire to carry on any piece of work that the physician should do, but neglect of activities of this character leads to clinics and subsequent friction. Preventive medicine offers today to the practicing physician, not another specialty of medicine, but a most valuable avenue through which to guide patients and families who are in need of medical attention to the care of the personal physician.

J. C. Geiger, San Francisco.

Blood Pressure Determination.—Blood pressure determination seems such a simple procedure that it is apparently superfluous to many to attempt to clarify what at first sight needs no clarification. But the writer has recently had a few experiences which indicate that mention of a few possible, and even frequent, causes of error in this regard will not be amiss.

Very frequently patients will remark that the doctor has told them that it makes no difference on which part of the body, from head to toe, the blood pressure is taken. That this statement is grossly in error is immediately evident to anyone familiar with the elements of the principles of hydraulics. The pressure at different levels in a column of fluid varies directly as the depth of this level or inversely as its height, and this applies also to the column of blood in a vessel.

For some not very obvious reason the blood pressure taken at the same level on the two sides of the body (as right and left elbows) may, and often does, vary, and sometimes quite considerably. This variation is more prominent usually in the systolic figures, as in the following case: right arm, 120/75; left arm, 145/70; but the diastolic figure also may vary considerably.

Much less known than the above is the so-called auscultatory gap, the "trou auscultatoire" of the French. This is a sudden loss, or decrease in intensity, of the sounds heard during the release of the pressure in the cuff of the sphygmomanometer. In a hypertension patient seen recently, the figures were 240-220 . . . 190-130. The length of this silent period is variable, its extent in different cases having been from 10 to 50 millimeters of mercury. It is not constantly present in the same individual, and its level and extent are also not constant in the same person. The explanations given for this phenomenon are many and unproven, but it does seem to be related to hypertension and to aortic stenosis, these having been present in all the recorded cases except for those of aneurysm and compression of the subclavian or brachial artery mentioned by Gallavardin and Tixier,[1] and Gallavardin and Barbier,[2] and there seems to be a possible relationship toward an anacrotic pulse. The latter is present in cases of stiff arteries and of stenosis of the semilunar valves, according to Howell,[3] and Erlanger [4] who found that sounds in the first and second phases, as heard in the auscultatory method of blood pressure determination, become faint and often disappear if the artery below the cuff is temporarily occluded. This latter is the same as increasing the peripheral resistance and thus imitates the conditions present in lessened vascular elasticity and gives a quickened reflection of the pulse wave, which is presumed to be in etiological relationship. Von Kries [5] states that the anacrotic pulse may be produced by raising the arm, which he believes favors reflection of the pulse wave from the periphery and that the anacrotic pulse is simply a quickly reflected wave. However, von Recklinghausen states that conditions leading to diminution in vascular tone and dilatation of the arteries produce "weak reflection" and an anacrotic pulse. Constriction of the small arteries in any system favors quick reflection in the artery supplying the system and produces a pulse with a sharp-pointed apex. It does seem that, if there is an increased peripheral resistance, the blood pressure during the second phase, when the flow into the artery distal to the cuff is ordinarily rapid, may mount, owing to the high peripheral resistance, to a height sufficient to cause the sounds to disappear for a definite interval and to become audible again when the louder sounds of the third phase develop.

Recently, in a patient with unmistakable chronic gout, the blood pressure was taken with the patient standing and was found to be 190/80 while the pulse was 126 and regular. Thorough examination revealed no reason for the tachycardia; however, a surprising finding was a sudden rise of the blood pressure to 235/80 and a drop in pulse rate to 52, the rate remaining regular, in either the sitting or reclining position. Standing caused the pulse and blood pressure to revert to the previous figures. This was checked a number of times, and each time the same changes occurred in the same positions. No reason for this change could be found. The heart was only slightly enlarged to percussion, and this was confirmed by the orthocardiogram; blood count, urine, and Wassermann were all negative and the blood uric acid was only a high normal. Electrocardiogram was normal.

Perhaps better known, but not always sufficiently considered, is the fact that the first blood pressure reading is not in most cases the true one.

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[1] Gallavardin et Tixier. Dissociation sphygmomanométrique oscillatoire et vibro-auscultatoire dans un cas de rétrécissement aortique serré et insuffisance aortique avec pulsus tardus et anacrotisme. Arch. d. mal. du coeur, 12, 447, 1919.

[2] Gallavardin et Barbier. Le trou auscultatoire et ses conditions de production. Lyon méd., 130, 605, 1921.

[3] Howell. Textbook of Physiology.

[4] Erlanger, J. Studies in blood pressure estimations by indirect methods. II. The mechanism of the compression sounds of Korotkoff. Am. J. Physiol , 40, 82, 1916.

[5] Von Kries. Studien der Pulslehre, 1892.

This is so in secondary hypertension as well as in the primary, or essential, form. In the latter type, Ayman,[6] after investigation, recently concluded that "the instability of the blood pressure in essential hypertension will often lead to normal readings of the blood pressure if the patient sits quietly for from five to twenty minutes" and that this occurs even in patients with widespread vascular changes, he having observed this to occur in 56 per cent of seventy-six unselected cases. Just as the French speak of a "consultation murmur," so we may speak of a psychic or "consultation" hypertension.

Above are just a few facts to indicate that blood pressure determinations are not the simple procedures they are thought to be by many, and that care should be exercised in their determination.

Louis Baltimore, Los Angeles.

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[6] Ayman, David. Normal blood pressure in essential hypertension. J. A. M. A., 94, 1214, April 19, 1930.

Di Sodium Tetra Iodo Ortho Sulpho Benzo Ate.—Sounds like a college yell or the chorus of a comic opera. But it is neither. Merely the de-floyd-gibson-ized name of a new adjunct to x-ray diagnosis. Injected into diseased joints, it has led to such real or psychic improvement that several patients have asked for a second "treatment." Nevertheless no curative effect is claimed for the new polysyllabic drug. The discovery of this new substance is of particular interest as exemplifying the painstaking modesty of ethical medical research, as contrasted with the flaming headlines of research charlatanism.

In order to prescribe rational treatment in joint disease, it is necessary to determine the exact local pathologic condition. Abnormalities in bones are readily photographed, but such photographs throw little or no light on lesions of the synovial membrane and surrounding soft parts. Changes in these non-osseous tissues are readily determinded by the new diagnostic agent.

In order to discover or invent a safe injection mass for joint cavities, it was necessary for research chemists to find or synthesize some x-ray opaque substance, absolutely nontoxic for synovial tissues, readily diffusible through joint membranes, and rapidly eliminated by the kidneys. During the last fifteen years, numerous substances have been tested by Doctor Keller and his associates, orthopedic surgeons of the Neurological Hospital, New York City.[1] At the end of this period the substance whose disjointed name is at the head of this item was perfected.

A solution of this salt isotonic with human blood was first found by Doctor Keller and his collaborators [2] to be nonirritating when instilled into the conjunctival sac of the human eye. Subcutaneous, intramuscular and intravenous injections into lower animals gave no evidences of local irritation or general toxicity. The new drug was rapidly eliminated by the kidneys without causing demonstrable disturbance in kidney function. Administered to rats, previously trained to find their way through a circular maze, the new compound produced no demonstrable psychic or neuromuscular disturbance. Injected into joint cavities, clear x-ray pictures were obtained of normal synovial sacs.

Isotonic solutions of the new agent were now injected into the synovial sacs of arthritic cases. Such injections were found to give distinct x-ray shadows, showing synovial adhesions and other partial obliterations of joint cavities. Altered synovial permeability was estimated from the altered rate of excretions by the kidneys. In many cases the real or psychic after-effects were so pleasant that the patient mistook the new method of diagnosis for specific treatment, and asked for a second injection.

Doctor Keller's failure to exploit his new polysyllabic drug as the long-sought-for specific for articular rheumatism has probably cost the New York hospital a million dollars of easy money, readily extractable from a credulous public.

W. H. Manwaring, Stanford University.

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[1] Keller, H. Experimental Studies on Visualization of Joints by Injections of a Drug. Proc. Soc. Exper. Biol. and Med., 27, 852, May 1930.

[2] Macht, D. I., and Twiss, D. A Pharmacological Study of Sodium Tetra-iodo-ortho-sulpho Benzoate. Ibid., 27, 850, May 1930.

Cancer of the Stomach.—Cancer of the stomach, while necessarily a surgical condition, is of vital importance to the internist and general practitioner. Its early recognition very frequently depends upon them, owing to the fact that they are usually the first medical contacts which the patient makes. This being the case great responsibility falls upon them and it is necessary that their conception of the disease be one well seasoned with good judgment which implies:

1. Diagnostic skill.

2. An acceptance of recognized views, especially those that pertain to gastric ulcer as a probable soil for malignancy.

3. Selected medical treatment.

Diagnostic skill embraces more than its name implies. This applies especially to this disease. Exhaustive examinations may fail to reveal organic disease, but in spite of this, a mind open to all possibilities and permitting an exploratory operation in selected cases, is consistent with good judgment, as it often permits of the discovery of a malignant condition in its early stages.

That a neurotic individual who has been subject to gastro-intestinal symptoms for years may develop an accompanying malignancy should never be overlooked.

Cancer of the stomach may simulate an ulcer even though it has not had an ulcer background. No patient with gastro-intestinal symptoms, or with certain other findings such as an obscure anemia, even though unaccompanied by gastric symptoms, should be denied an x-ray study. In the final analysis our most valuable information is obtained from this source. My only criticism of its use is that a final verdict is frequently based on one examination. In obscure cases, repeated x-ray studies at least several times, over a few weeks to a few months, should be made.

Pathology of the stomach is especially prone to involve the pyloric region. Too much should not be expected of the roentgenologist in specifying exactly the character of the trouble. A lesion at the pylorus is frequently all that the pathologist can admit. This should be ample for us to advise surgery.

Gastric analysis and stool examinations for occult blood, while helpful, are far from diagnostic. They should always be utilized especially in doubtful cases.

Fifty per cent of patients with cancer of the stomach show the presence of free hydrochloric acid and at times a hyperacidity. An interesting observation of Hartman's shows the prognostic significance of the presence or absence of free hydrochloric acid in the gastric contents. In a series of eighty cases he has shown that a patient with a resectable carcinoma of the stomach and anacidity has a 44 per cent chance of, at least, five years of life, postoperatively, and twice the chance of a similar patient with free hydrochloric acid.

The differential diagnosis between cancer of the stomach and pernicious anemia should not ordinarily be difficult. In a series of 144 cases of severe secondary anemia with hemoglobin of thirty or less reported by me, twenty-six were due to cancer of the stomach. Not one of these had a blood count that could be confused with that of pernicious anemia. The color index varied between three and six. It should be understood that a normal blood picture is frequently present.

Syphilis of the stomach may be confused with cancer. The fairly characteristic x-ray findings, absence of a mass, with big filling defect and response to treatment differentiates syphilis readily.

In all doubtful cases and in many so-called inoperable cases of cancer of the stomach, potassium iodid should be tried.

In our efforts to prevent gastric cancer, the potential chances for malignancy to develop on a gastric ulcer should be borne in mind. The safest course demands that a gastric ulcer receive immediate surgical intervention. This is especially true after the age of 35 to 40, although the occasional occurrence of malignancy in the young would indicate the advisability of this procedure under this age as well.

Any *medical treatment* should be restricted to:

1. Certain preoperative measures such as are indicated in cases associated with obstruction, especially with an accompanying alkalosis. The latter syndrome is of extreme importance and its recognition is determined by the chloride and carbon dioxid combining power estimation. Other preoperative measures such as transfusion, if necessary should receive attention.

2. Postoperative management is usually necessary and frequently over a long period of time. Patients are too frequently discharged as cured, important subsequent measures and operations being neglected.

3. Palliative treatment embraces inoperable cases as well as operable. These cases frequently go back into the hands of the internist or general practitioner.

Arthur E. Mark, Hollywood.

Another Gas Hazard—Methanol, or methyl alcohol, was until recently produced by the destructive distillation of wood. It is now manufactured in large amounts from water gas and hydrogen ($CO—H_2—H_2—CH_40$) at a low cost. One of the uses for which methanol is well adapted in all respects except one is in the antifreeze mixture in automobile radiators. This unfortunate exception to its good qualities consists in the fact that methanol is a volatile cumulative poison. When taken in frequently repeated small doses, methanol induces blindness; in larger doses, whether by the stomach or by the lungs, it may cause death.

As the coefficient of distribution of methanol between water, or blood, and air is high, by far the greater part of any quantity of methanol that reaches the lungs is absorbed. Unlike ethyl alcohol, methanol is not burned in the body to any considerable degree, and its excretion through the breath and the urine is extremely slow. The toxic dose is not large and is easily reached even when the amount absorbed daily is too small to induce a noticeable initial effect. Contrary to the claims that would minimize its dangers, methanol is quite as poisonous when inhaled into the lungs as when taken into the stomach. Erroneous also is the assertion that, as the synthetic product is almost pure methanol, it is less toxic than the somewhat impure product obtained by the older method of manufacture. The fact is that in any preparation of methanol, pure or impure, the chief toxic substance is the methanol itself.

If, as now seems probable, methanol is widely sold for use in automobiles during the coming winter, and if precautions and warning in regard to the dangers of inhaling its fumes from heated automobile radiators is not instituted, it is highly probable that many cases of blindness will result, and probably also fatalities.—Editorial, *Journal of the American Medical Association,* August 30, 1930.

Radio Talks on the History of Medicine by Haggard of Yale.—Dr. Howard W. Haggard, associate professor of applied physiology, Yale University, is about to begin a series of weekly radio talks to be known as "Devils, Drugs and Doctors."

These talks started Sunday, January 25, and will continue for a period of at least a year.

The purpose of this series is to acquaint the public with some of the high points in medical and dental history, and with the most recent contributions to the science of health preservation. The ethical standing of these talks is assured by the position that Doctor Haggard enjoys in the profession.

The topics for January and February are as follows:

Sunday, February 1—History of Anesthesia.
Sunday, February 8—Crusaders Against Pain.
Sunday, February 15—Fashions in the Making.
Sunday, February 22—Medical Logic.

The following Columbia Broadcasting Stations will carry these talks:

Salt Lake City, KDYL (6 to 6:15, mountain time).

Los Angeles, KHJ (5 to 5:15 p. m., Pacific standard time).

San Francisco, KFRC (5 to 5:15 p. m., Pacific standard time).

STATE MEDICAL ASSOCIATIONS

CALIFORNIA MEDICAL ASSOCIATION[*]

LYELL C. KINNEY	President
JUNIUS B. HARRIS	President-Elect
EMMA W. POPE	Secretary

OFFICIAL NOTICE

Nineteen Thirty-One Annual Session Headquarters

Fairmont Hotel—Headquarters for the next annual session, to be held at San Francisco April 27 to 30, 1931, will be the Fairmont Hotel.

The Fairmont has quoted the following rates for rooms, all with baths:

Single rooms, opening on large inner court, $4.
Double rooms, opening on large inner court, $6.
Single outside rooms with city and marine view, $6.
Double outside rooms with city and marine view, $8.
Double outside rooms with city and marine view, $10.

You are advised to make your reservations now.

COMPONENT COUNTY SOCIETIES

FRESNO COUNTY

The regular meeting of the Fresno County Medical Society was held in the Californian Hotel January 6.

It was moved by Dr. G. W. Walker, seconded by Doctor James, that the society reconsider the withdrawal of periodical subscriptions and have the Library Committee study this and render a report to the society. Motion carried.

An invitation was made by Doctor Trowbridge to the society to use the University-Sequoia Club for its regular meetings at any time desired.

Dr. G. W. Pierce of San Francisco presented a scientific paper upon plastic surgery and then demonstrated motion pictures showing cases and surgical technique. His paper and demonstrations dealt particularly with tubular skin grafts, methods of transplantation, and repairs of defects of the face and palate, and the ultimate results. The paper was instructive, and many minor but important technical points were brought out and demonstrated.

E. R. Scarboro, *Secretary.*

NAPA COUNTY

The regular monthly meeting of the Napa County Medical Society was held Wednesday, December 10, 1930, at Marino's Grill, Napa.

Dr. George I. Dawson, president, opened the meeting. Routine business was conducted.

The Committee on Public Policy and Legislation was selected as follows: W. L. Blodgett, Calistoga, chairman; D. H. Murray and G. I. Dawson, Napa.

Dr. M. M. Booth of St. Helena was selected to act as a member on Medical Economics.

No special program for the evening was provided, but a round-table discussion of subjects interesting to members was carried on.

Those present were: Doctors W. L. Blodgett and Edward Love, Calistoga; H. R. Coleman, G. I. Dawson, C. A. Johnson, D. W. Murray, and R. S. Northrop, Napa; E. H. Donnelley, Imola; George H. Rue, Koera.

The regular monthly meeting of the Napa County Medical Society, preceded by a dinner, was held Wednesday, January 7, at Marino's Grill, Napa, Dr. Robert S. Northrop, president, in the chair.

Several communications were read.

The application for membership of Dr. E. F. Anderson, St. Helena, was unanimously accepted.

The speaker of the evening, Dr. W. H. Kellogg, director of the State Hygienic Laboratory, spoke most interestingly on public health problems as related to the general practitioner. He also discussed communicable diseases, especially smallpox, and stressed the importance of vaccination, especially in children. During the discussion that followed, it was brought out that in Scotland all children must be vaccinated before the age of six months. The medical society went on record as heartily endorsing the early vaccination of children.

It was the opinion of members present that some action should be started relative to the medical broadcasting over the radio, and that the secretary be so instructed to communicate with the state secretary concerning the subject.

Members present: Doctors H. V. Baker, H. R. Coleman, G. I. Dawson, C. A. Johnson, D. H. Murray, R. S. Northrop, and John Robertson, Napa; A. E. Chappell and E. H. Donnelley, Imola; C. E. Nelson and H. V. Vollmer, St. Helena Sanitarium.

Visitors present: Dr. W. H. Kellogg and Doctor Sweigert, intern at Napa State Hospital.

C. A. Johnson, *Secretary.*

ORANGE COUNTY

Members of the Orange County Medical Association celebrated the annual meeting of this society on Tuesday, January 13, at the Santa Ana Country Club. The annual dinner is a combined social and scientific event for members and their wives and guests.

Entertainment during the dinner was furnished by a trio composed of Ollinae Enlow Matthews, violin; Edward Gros Bayne, cello; and Franz Darvas, piano.

Later in the evening Mrs. Matthews and Mr. Bayne each contributed solos to the program, with Mr. Darvas at the piano. Dr. Bessie Stokes Martell presided as toastmistress, introducing Dr. H. M. Robertson of Santa Ana who served the association as president during the past year.

"Taking an Inventory" was the subject chosen by Dr. Robertson for his excellent address in which he pointed out the necessity for such a move on the part of medical associations in general—national, state, and county—as well as for the individual physician, as a means of progress in the profession and of weeding out those things which are of no value.

M. B. Wellington, guest speaker, chose "Doctors" as his theme, discussing the subject from a layman's point of view.

Varying the program of music and addresses was a cleverly enacted one-act play in which Ernest Crozier Phillips of the Santa Ana Junior College drama department presented three young men of the student body—Eugene Olsen, Robert DeuPree, and Dean Wright. The special lighting effects for the play were controlled by Ray Archer.

Doctor Martell's final duty as toastmistress was the presentation for installation of the new officers: Emerald Steen of Fullerton, president; J. Luther Maroon of Santa Ana, vice-president; Harry G. Huffman of Santa Ana, secretary-treasurer; C. D. Ball, librarian; G. M. Tralle, Dexter R. Ball, and J. L. Beebe, councilors; H. E. Zaiser and D. R. Ball, delegates.

Harry G. Huffman, *Secretary.*

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[*] For a complete list of general offices, of standing committees, of section officers, and of executive officers of the component county societies, see index references on the front cover, under Miscellany.

SACRAMENTO COUNTY

At the first meeting of the board of directors of the Sacramento Society for Medical Improvement, which was held last Tuesday, Philip G. Young was chosen as president of the society for the year 1931. At the annual meeting on December 16, the following members were elected to act as the board of directors: Doctors Edward Babcock, Orin S. Cook, Paul Christman, A. K. Dunlap, Frank MacDonald, Hans Schluter, Philip G. Young, Harold Zimmerman. Franklin Warne Lee was reëlected to the post of secretary for the year 1931. Gustave Wilson was elected a delegate for two years, and E. W. Beach as alternate for two years.

Franklin Warne Lee, *Secretary.*

SAN DIEGO COUNTY

Dr. Joseph C. Aub, associate professor of medicine at Harvard Medical School, spoke before the San Diego Academy of Medicine on December 8, 1930, on "The Rôle of Inorganic Salts in Internal Medicine."

Dr. P. J. Hanzlik, professor of pharmacology at Stanford Medical School, gave lectures before the academy on December 18 and 19: (1) Intravenous Therapy. (2) Bismuth Compounds in Antisyphilitic Therapy.

Dr. James W. Sherrill, director of the Scripps Metabolic Clinic, La Jolla, has issued the names of lecturers for 1931. Mr. Milton McRae and Mr. J. C. Harper have financed these lectures and a dinner for the members of the San Diego County Medical Society and many other medical men all over southern California. Mr. McRae died a few months ago, and Miss Ellen Scripps and Mr. Harper carry on.

SAN JOAQUIN COUNTY

The annual meeting of the San Joaquin County Medical Society was held Thursday, December 4, 1930, at 6:30 p. m. at the Stockton Golf and Country Club. Thirty-eight members and eight guests attended. During the course of the dinner, which preceded the business meeting, music was furnished by Miss Lucy Bruch on the violin, accompanied by Mrs. Jeanette Rose.

At the conclusion of the dinner the meeting was called to order, and the secretary read the minutes of the previous meeting, which were duly approved.

An annual report was presented and read by the secretary-treasurer, which stood approved.

At this time the president announced the result of the election of officers for 1931 as follows: G. H. Rohrbacher, president; George H. Sanderson, first vice-president; R. T. McGurk, second vice-president; C. A. Broaddus, secretary-treasurer.

Board of directors: F. J. Conzelmann, J. W. Barnes, H. S. Chapman, Dewey R. Powell, C. V. Thompson, John J. Sippy, and R. T. McGurk.

State delegates: J. W. Barnes and B. J. Powell.

Alternates: G. H. Rohrbacher and Margaret Smythe.

Admission Committee—C. F. English (chairman), J. D. Dameron, L. Dozier, J. F. Doughty, and J. E. Nelson.

Ethics Committee—Hudson Smythe (chairman), J. W. Barnes, B. J. Powell, George H. Sanderson, and D. R. Powell.

Finance Committee—J. D. Dameron (chairman), J. V. Craviotto, and H. S. Chapman.

Program Committee—George H. Sanderson (chairman), P. B. Gallegos, and T. L. Sutton.

Dr. Barton J. Powell, Jr., was received into membership by the president.

The following guests were present: Doctors Harry E. Alderson and Stuart C. Way of San Francisco, the speakers of the evening; Doctors Haggerty and Vanderleek from the State Hospital; Doctors Kyddson and Thompson, Miss Lucy Brusch, and Mrs. Jeannette Rose.

Doctor Kaplan then reviewed some of the work of the past year and extended thanks to the members in general for their coöperation during the past year, and to several members in particular.

The members present were: Doctors D. R. Powell, B. F. Powell, Sr., B. F. Powell, Jr., Barnes, Margaret Smythe, McGurk, Blackmun, Davison, Goodman, Sutton, Sippy, Boehmer, C. V. Thompson, Bollinger, Chapman, Barbour, McNeil, Doughty, Smithers, English, Hudson Smythe, Craviotto, Pinney, Dozier, Latta, Priestley, Powers, Hull, Sheldon, Tretheway, Haight, Hanson, Sanderson, Van Meter, Gallegos, Kaplan, Broaddus, and Rohrbacher.

Dr. Harry E. Alderson and Dr. Stuart C. Way presented the paper of the evening, illustrated by moving pictures of skin lesions from the skin and syphilis clinic of Stanford University Medical School.

One of the interesting features of the evening were the replies of the speakers to a long series of questions put to the two doctors by members.

A vote of thanks was given the speakers and musicians.

C. A. Broaddus, *Secretary.*

SANTA BARBARA COUNTY

The annual banquet meeting of the Santa Barbara County Medical Society was held at El Paso Tea Room on January 12, with President Hugh Freidell presiding.

There were present fifty-five members and nineteen visitors.

The members and guests gathered at 6:30 and promptly at 7 sat down to the banquet table, at which time President Freidell turned the gavel over to Dr. H. J. Profant as chairman of the Entertainment Committee. Doctor Profant then introduced Greenough's Orchestra, which provided wonderful music during the dinner. Songs were distributed to the membership and were sung under the leadership of Doctor Profant. Then followed fancy dancing by a local girl, Miss Doris Smith. The toastmaster then called on the following members for either a funny story or their one big moment: Doctors Nuzum, Engelbach, Jones, Hunt, Hamilton, Ullmann, Mellinger, Coblentz, and Bakewell. The judges were Doctors Luton and Roome, who awarded first prize to Doctor Engelbach and second to Doctor Coblentz.

At the conclusion of the stunts, Doctor Freidell introduced Dr. Pan Codellas of San Francisco, who gave us a very interesting and instructive talk on the development of medicine, reciting the history of medicine and tracing its origin back to four thousand years before Christ, telling of the discoveries of case histories on clay bricks of the ancient Egyptians and on tiles of the ancient Pharaohs, and from them on up to the time of the Greeks and Romans.

At the conclusion of this talk Doctor Codellas was given a rising vote of thanks in appreciation.

The meeting then went into executive session and the minutes of the last annual meeting were read and approved. The financial report of the secretary was read and ordered filed.

The applications of Doctors Cruden and Grandstaff were read and, upon balloting, they were unanimously elected into membership.

The following officers were then elected for the ensuing year: H. J. Ullmann, president; Hilmar O. Koefod, vice-president; W. H. Eaton, secretary; O. C. Jones of Santa Maria, first vice-president at large; H. G. Hanze of Solvang, second vice-president at large.

Doctor Markthaler then reported for the Public Relations Committee and read the minutes of the meeting of January 9, together with a letter from Doctor Coblentz of Santa Maria and a proposed medical service contract of the county.

It was then moved, seconded and unanimously carried, that the following motion adopted by the Public Relations Committee be adopted by the Santa Barbara County Medical Society and be incorporated in the minutes of this meeting:

"1. That no member of the Santa Barbara County Medical Society enter into any such agreement with the Santa Barbara County Board of Supervisors for professional services, as proposed in the enclosed plan, without the approval of the society.

"2. That no member of the Santa Barbara County Medical Society enter into any agreement with any organization or like group for professional services without the expressed approval of the society.

"3. That any member acting contrary to these recommendations be automatically suspended from the county society." *

The following committees were appointed for the ensuing year:

Board of Censors—R. F. Atsatt, C. T. Roome, and Milton Geyman.

Program Committee—H. O. Koefod, W. D. Sansum, and Milton Geyman.

Committee for Revision of Constitution and By-Laws—P. C. Means and W. H. Eaton.

Public Relationship Committee—J. B. Manning, W. E. Johnson, H. E. Henderson, E. L. Markthaler, and O. C. Jones.

County Welfare Board—H. E. Henderson and Hugh Freidell.

William H. Eaton, *Secretary*.

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SANTA CLARA COUNTY

The December meeting was called to order on December 12 in the auditorium of the San Jose Medico-Dental Building. After various business matters were disposed of, Dr. Dudley P. Fagerstrom, secretary of the society, presented a very interesting dramatization of "Some Famous Characters in Medical History." The following talented members of the society were each costumed to impersonate an important departed medico who returned for an earthly visit at this meeting: Dr. John Hunt Shephard—Hippocrates; Dr. Helen Lee—Madame Tortula of Salerno; Dr. Peter A. Jordan—William Harvey; Dr. Stanley Kneeshaw—Ambrose Paré; Dr. M. W. Kapp—The Nineteenth Century Practitioner. Modern medical practice was then represented in a travesty, "An Interview of a Modern-Day Detail Man for a Pharmaceutical House Manufacturing Endocrine Gland Products." Dr. Samuel Staub gave a clever, humorous portrayal of the detail man, and was ably assisted by some local pharmacists. Some delightful music under the direction of Dr. Charles M. Richards was interspersed in the program and greatly appreciated by the large number of members who attended.

The following new members were admitted to the society: Dr. Margaret Lamson of Palo Alto, Dr. Bertha Shedd Mason, Dr. Newell L. Moore, Dr. Paul T. Pace of San Jose, and Dr. E. W. Mullen of Agnew.

The application for membership of the following doctors were referred to the Admission Committee: Dr. John J. Bourn and Dr. Anthony J. Monty.

The memberships of Dr. Russel V. Lee and Dr. Herlwyn R. Green, both of Palo Alto, were transferred from the San Francisco County Society. An application from Dr. Joseph P. Schell for transfer of membership from the Butte County Medical Society was referred to the Admission Committee.

Dr. R. A. Whiffen, who has retired from active practice, tendered his resignation to the society. This, however, was not accepted, and it was moved, recorded and unanimously carried, that he be invited to become a retired member in lieu of his resignation.

Lucas W. Empey, *Assistant Secretary*.

SONOMA COUNTY

The regular meeting of the Sonoma County Medical Society was held on December 18, 1930, at the Occidental Hotel, Santa Rosa. Dinner preceded the meeting with the Woman's Auxiliary.

The meeting was called to order by Dr. Chester Marsh, president, at 8 p. m.

Dr. Paul T. Quarry gave a very interesting talk on his observations at some of the eastern clinics.

The following officers were elected: A. Morse Bowles, president; J. Leslie Spear, vice-president; T. Hubert Reiss, secretary; Clifford M. Carlson, treasurer; Chester Marsh of Sebastopol, delegate; H. Walter Seawell of Healdsburg, alternate.

Censor Stuart Z. Peoples is to serve to December 31, 1933.

A vote of thanks was given the retiring officers for the efficient and successful manner in which they had performed their duties.

J. Leslie Spear, *Secretary*.

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VENTURA COUNTY

The January meeting of the Ventura County Medical Society was held Tuesday, January 13. The meeting was called to order by President Wright at 8 p. m.

Those present were: Doctors Achenbach, Felberbaum, Hendricks, Rhymes, Bianchi, Shore, Welch, Wright, Mosher, Armitstead, Smolt, Patton, W. S. Clark, Broughton, Jones, and Illick.

A very interesting scientific program was presented by Dr. J. V. Barrow, there being two subjects on the program. The first was an illustrated lecture on "Intestinal Protozoa," which was very interesting and was enjoyed by all. Doctor Barrow also delivered a paper on "The Business of Medicine." Considerable discussion followed the papers.

R. B. Armitstead, *Secretary*.

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YOLO-COLUSA-GLENN COUNTIES

The Yolo-Colusa-Glenn County Medical Society, after partaking of a dinner at the Woodland Hotel, adjourned to the Woodland Clinic where it was called to order by President Bell.

The following physicians were present: Doctors Cooper, Pulford, F. Fairchild, C. Fairchild, Bell, McBride, McNeil, Tillotson, Railsback, Gray, J. Lawson, F. M. Lawson, Blevens, Brown, Browning, Penwell, Keith, Poage, Rathburn, Huntley, Ward, Desrosier, Scott, Bates, and George H. Sanderson and A. L. Van Meter of Stockton.

Several communications were then read and placed on file.

It was moved, seconded and carried, that Dr. Ney Salter, who is now in the Letterman Hospital, San Francisco, be made an honorary member of this society until such time as he may resume practice.

The president appointed Mrs. F. R. Fairchild and Mrs. Frank M. Lawson as a committee to form a Woman's Auxiliary.

The society then proceeded to the election of officers with the following results:

Thomas H. Brown of Orland was elected president; William T. Rathburn of Colusa, vice-president; W. E. Bates of Davis, secretary-treasurer; Oscar C. Railsback, delegate to the state convention; and T. E. Cooper as alternate.

The scientific program of the evening, a symposium on fractures, was then opened by Doctor McNeil of the Woodland Clinic. Discussion was opened by Dr. Fred R. Fairchild. All fractures and their treatment and results were illustrated by slides. The first considered was fractures of the clavicle, then fractures of the head and shaft of humerus, then of the elbow, next in order were fractures of the forearm and wrist, then the spine and hip.

Different forms of apparatus were shown for the setting and holding of the different fractures.

W. E. Bates, *Secretary-Treasurer*.

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*Regarding the cause for these resolutions, see also editorial comment in this number of California and Western Medicine, page 121.

CHANGES IN MEMBERSHIP

New Members

Napa County—David Bruce Williams.

San Diego County—Edward R. Cox.

San Francisco County—Francis Scott Smyth.

Santa Barbara County—Alexander W. Cruden, Floyd L. Grandstaff.

Ventura County—Lester Harold Rhymes.

Transferred

Benjamin F. Cunningham, from Los Angeles to San Luis Obispo County.

Elmo Alexander, from Sacramento to Stanislaus County.

James E. McCue, from Lassen-Plumas to Stanislaus County.

Deaths

Crowley, Dennis David. Died at Oakland December 28, 1930, age 72 years. Graduate of Bennett Medical College, Chicago, 1879, and the University of Illinois College of Medicine, Chicago, 1885. Licensed in California, 1886. Doctor Crowley was a member of the Alameda County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

Falk, Curtis Oliver. Died October 19, 1930, age 54 years. Graduate of Cooper Medical College, San Francisco, 1897. Licensed in California, 1898. Doctor Falk was a member of the Humboldt County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

Zieber, William Harvey. Died November 19, 1930, age 68 years. Graduate of College of Physicians and Surgeons, Keokuk, Iowa, 1890. Licensed in California, 1922. Doctor Zieber was a member of the Santa Clara County Medical Society, the California Medical Association, and the American Medical Association.

OBITUARY

William Leland Mitchell, M. D.

1893-1930

The following extract from the *Weekly Bulletin of the California Department of Public Health*, December 6, 1930, explains why the local community was depressed when the painful news arrived that Doctor Mitchell was dead. Apparently he was a robust individual, fit for any hazard, yet he died in the line of duty.

"Many Californians who knew Dr. W. Leland Mitchell, formerly health officer of Orange County, will be shocked to learn of his death, which occurred recently in Budapest, Hungary. Doctor Mitchell, since leaving California in 1925, had been with the International Health Board and had been stationed in Paris and in Budapest. Only last year, he had taken a year of special study at the Johns Hopkins University School of Public Health."

Doctor Mitchell died after a short illness on November 21, 1930, of a heart affection, complicated by an attack of bronchopneumonia.

He was born in Staunton, Illinois, July 5, 1893, and was of Colonial ancestry. He was educated at the University of Illinois and received his degree from Washington University, St. Louis, Missouri ,in 1918. His fraternities were the Phi Delta Theta and Nu Sigma Nu. Doctor Mitchell served as first lieutenant, Medical Corps, United States Army, in France in 1918-1919, with the American Red Cross in Poland in 1920-1922, and with the Rockefeller Foundation in 1922-1926.

He came to Orange County in 1922, representing the Rockefeller Foundation, was health officer of Orange County in 1923-1924. Doctor Mitchell joined the Orange County Medical Association in 1924. He was a member of the California Medical Association and a Fellow of the American Medical Association. On September 16, 1929, Doctor Mitchell married Marie Madeline de Szikszay of Budapest.

He did yeoman service for mankind in France, Poland, and Hungary—service that cost him his life. It is fitting that his medical society honor his memory.

C. D. Ball, M. D., *Librarian.*

THE WOMAN'S AUXILIARY OF THE CALIFORNIA MEDICAL ASSOCIATION*

The Woman's Auxiliary to the American Medical Association Progress Notes

According to the constitution of the national auxiliary the first vice-president is automatically chairman of organization, the three other vice-presidents being organizers for their section of the country. Mrs. Southgate Leigh of Virginia, therefore, holds this chairmanship, and the eastern district is her particular responsibility. At her request a series of four articles is being prepared by her committee in order that each district may be cognizant of the progress of its own state's as well as those of the other three sections. The individual state journals have been generous in the extreme in the space they have allowed their auxiliaries, and this additional courtesy of reporting the auxiliary situation in other states is deeply appreciated, for there is a growing desire to know "what others are doing."

New Hampshire stands alone as the only New England state 100 per cent organized and coöperating with the national organization. Last year the state auxiliary had misgivings as to its necessity and usefulness, but an urgent request from the medical society that the women remain organized dispelled all doubts. During the year following, Mrs. Hubbard, wife of the state president, visited every county, which encouraged and stimulated the growth of unit auxiliaries.

The New Jersey Auxiliary made pilgrimages to state institutions, set apart one meeting when the mothers of physicians were entertained, and sponsored various health meetings. The Essex County Auxiliary, assisted by the physicians, succeeded in establishing a course of health talks, in coöperation with the Y. W. C. A. of Newark, emphasizing especially prenatal care and information which would aid the mothers of babies and young children. Last year Mrs. James Hunter, Jr., New Jersey's state president, visited every county, as did Mrs. Walter Jackson Freeman in Pennsylvania, during her presidency. One cannot help drawing the conclusion that personal contacts are necessary for county development and success.

Virginia is active in spots. The doctors encourage the auxiliaries, as they believe that through them education with regard to the menace of state medicine can be spread.

Ohio for several years has been sending representatives from a few organized counties to the national meetings, but as yet there is no state organization. As our friend and adviser, Doctor Upham, lives in Ohio, it is felt that he will advise the national auxiliary when the auspicious time arrives for the establishment of a state auxiliary.

The District of Columbia seems so completely diverted with Washington affairs that the auxiliary which so capably cared for the American Medical Association meetings some years back seems to have gone into retirement.

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* As county auxiliaries to the Woman's Auxiliary of the California Medical Association are formed, the names of officers should be forwarded to the state secretary-treasurer, Mrs. Dexter R. Ball, 2419 Bonnie Brae Street, Santa Ana, and to the California Medical Association office, Room 2004, 450 Sutter Street, San Francisco. Brief reports of county auxiliary meetings will be welcomed for publication in this column.

Delaware, in a breathless, better-late-than-never manner, has completely caught up and is most interested and active, and has entered upon serious work by assisting the men of the profession in establishing a medical library in Wilmington. They will coöperate with Philadelphia at the time of the American Medical Association, and the eastern section will introduce them with pride to the national organization. West Virginia is up and doing, and you may expect still better things from that state this year.

Maine, Massachusetts, Rhode Island, Vermont, and Maryland have reported the interest of individuals, but no organized effort. Queries from different localities in New York as to why there is no auxiliary have been answered with the statement that several years ago the House of Delegates voted unanimously in favor of the auxiliary and authorized its organization. The same year Connecticut voted favorably, but no definite steps have been taken.

Pennsylvania has surely discovered the rhythm in which its auxiliary work is best done, for concrete accomplishments have been turned out regularly, year by year. Of the $3000 contributed last year to the Medical Benevolence Fund more than two-thirds was contributed by the auxiliary. A definite trend toward educational meetings is felt all over the state and, socially, it is hoped that the carefully formed Philadelphia plans for the next meeting will bring honor and glory to the Keystone State. Not only are the adult members of the auxiliary meeting, but a group of the most charming and good-looking daughters of doctors are working together in order that they may know each other and work in unison for the comfort and pleasure of the American Medical Association guests when they come to Philadelphia in May. Verily, who can question the wisdom of the auxiliary, when it brings about so much willing work in behalf of the medical men of the country?

(Mrs.) W. Wayne Babcock,
Organizing Chairman of Eastern District.

* * *

Contra Costa County Auxiliary

The auxiliary to the Contra Costa County Medical Society was formed one year ago January 14, 1930, at the home of Mrs. J. M. McCullough of Crockett. There were eleven charter members. Since that time it has grown to twenty-one members.

We feel the auxiliary has created a better bond of fellowship among the men and lasting friendships among the women.

It has given the women enlightenment and interest in the work of their husbands.

It has given the doctor much needed rest and recreation in the midst of his serious scientific meetings.

We have placed Better Health magazines in the High School and Junior High Schools of Richmond, and we hope to put the magazines into every school in the county.

Helen Weil, *Secretary-Treasurer.*

NEVADA STATE MEDICAL ASSOCIATION

W. A. SHAW........President
R. P. ROANTREE, Elko........President-Elect
H. W. SAWYER, Fallon........First Vice-President
E. E. HAMER, Carson City........Second Vice-President
HORACE J. BROWN........Secretary-Treasurer
R. P. ROANTREE, D. A. TURNER,
S. K. MORRISON........Trustees

COMPONENT COUNTY SOCIETIES

WASHOE COUNTY

The Washoe County Medical Society met Tuesday night in the State Building, Reno, Doctor Creveling, president, presiding. The minutes of the last meeting were read, corrected and approved.

Dr. J. L. Robinson made a report on the pending transfer of the Nevada State Laboratory to the Nevada State Board of Health. Inasmuch as the report of the committee was not complete and their work not finished the committee was continued. Doctor Robinson also made a partial report as to the progress of the new Community Hospital and stated that it was the desire of the committee in charge to float, on the instalment plan, sufficient bond issues to erect the hospital, upon which work would start, presumably, in the coming spring.

Doctor Bath read a communication from the American Medical Association from the Council on Medical Education and Hospitals, under date of December 17, 1930. This communication spoke of a bill before Congress for an appropriation of $52,000,000 to erect additional veteran hospitals. One of the provisions of the bill was to provide additional hospital facilities at government expense for veterans regardless of whether their sickness or injury was of service origin or not. This bill was discussed by the members present. The secretary made a motion, which was seconded and carried, that this society approve of all needful aid for veterans such as the erection of hospitals and extension of medical and surgical care to all veterans whose ailments were of service origin and to all *indigent* veterans whose ailments were or were not of service origin. But to include among those receiving gratuitous service veterans whose disabilities were not of service origin and who were financially able to pay for any needful surgical or medical service could not be looked upon in any other light than that of gross injustice to practicing physicians and surgeons of the country at large, who whether they were in the service or not, have done their part to sustain the revenues of the government.

The society directed the secretary to prepare a symposium on all the phases usually met with in the treatment of pneumonia. The symposium should be composed of about eight essayists, each presenting his views in a five-minute paper.

Dr. George R. Smith of the Nevada State Hospital for Mental Disease read a paper which had been prepared by Dr. P. F. Schneider of Evanston, Illinois, on a "Hormone Test for the Diagnosis of Early Pregnancy." The following is the gist of the paper:

"The diagnosis of early pregnancy and its differentiation from other pelvic conditions can at present be accomplished with a considerable degree of accuracy by means of the Aschheim-Zondek test. This test is based on the fact, first, that large amounts of the hormone of the anterior pituitary body are excreted in the urine during pregnancy, and second, that when urine containing this hormone is injected into immature mice, ovulation occurs.

"As outlined by Aschheim, the procedure necessitates the use of five or six immature female mice, three weeks of age, for each experiment. Varying quantities of urine are injected into each mouse, three times daily, over a period of two days. Autopsy is done one hundred hours after the first injection, and the presence of corpora lutea and corpora hemorrhagica give positive evidence of pregnancy in the patient from whom the urine was obtained. In a report of one thousand cases Aschheim demonstrated 98.2 per cent accuracy, and stated that in the cases where accurate results were not obtained in the first test, subsequent tests gave results which were later substantiated.

"Friedman, in his work on ovulation in the rabbit, demonstrated that intravenous injection of five cubic centimeters of urine from a pregnant woman provoked ovulation in the same manner as in the mouse, the advantages being that ovulation occurs within twenty-four hours, either because of the injection of a single large amount directly into the blood stream, or because of the sexual peculiarities of the rabbit. Friedman injected eighteen rabbits with urine from pregnant women and obtained positive results in each instance. Fourteen rabbits, each injected with urine from nonpregnant women, all gave negative results. This work increased the value of the test by materially decreasing the time element, simplifying the technique, and apparently maintaining as great a degree of accuracy as that obtained by Aschheim and Zondek.

"Enumeration of the factors involved in this test will in a measure explain the technique which has been developed. The rabbit does not as a rule copulate or go into heat until the age of five months during the summer, and six to eight months during the winter (Hammond and Marshall). The rabbit has no regular cycle, does not ovulate unless it copulates, and following copulation, ovulation occurs in eight to ten hours (Friedman). By using rabbits not over twelve to fourteen weeks of age, the possibility of ovulation from other causes than the injection of the hormone is reduced to a minimum. We have found that when rabbits under three months of age are used the results are not constant, and are of little value."

Doctor Weldon, recently from Mobile, followed with the most excellent paper on "Toxemias of Pregnancy." His paper dealt with the complete pathological history of these cases such as would be exhibited by blood chemistry correlated by urine chemistry and the usual clinical manifestations. In summing up his paper the doctor concluded that every enceinte woman should receive prenatal care and the treatment could be summed up in his final dictum—be clean and keep clean. The paper was excellent in its scope, and was discussed by a number of those present.

Nineteen members were present.

Thomas W. Bath, *Secretary.*

UTAH STATE MEDICAL ASSOCIATION

WILLIAM L. RICH, Salt Lake City............President
R. A. PEARCE, Brigham City............President-Elect
M. M. CRITCHLOW, Salt Lake City............Secretary
J. U. GIESY, 701 Medical Arts Building, Salt Lake City............Associate Editor for Utah

COMPONENT COUNTY SOCIETIES

BOX ELDER COUNTY

The Box Elder County Medical Society held its meeting in conjunction with members of the Cache Valley and Weber County Medical Societies on November 11 in order to meet the state officers. Short talks were given by each of the officers. The main paper was given by Dr. William Bender of San Francisco, California, on "Anterior Poliomyelitis and Encephalitis." He emphasized the point of the late epidemic being chiefly an upper nervous system infection and the early and prolonged rest of the affected part in the treatment.

Officers for the following year were elected as follows: L. D. Mahannah, president; C. E. Wardleigh, vice-president; R. A. Pearse, secretary-treasurer; O. D. Luke, delegate.

Doctor Luke was also appointed as auxiliary member on public policy.

L. D. Mahannah, *Secretary.*

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SALT LAKE COUNTY

The regular semi-annual business meeting of the Salt Lake County Medical Society was held at the Newhouse Hotel Monday, December 8, 1930.

The meeting was convened at 8:15 p. m. by President M. M. Nielson. Fifty members were present.

The secretary's report was read and, upon the motion of M. M. Critchlow, was accepted and filed.

In the treasurer's report Clark Young recommended revision of the system of bookkeeping and combining the offices of secretary and treasurer.

After discussions of the recommendation by C. M. Benedict, W. F. Beer, J. Z. Brown, and G. A. Cochran, upon the motion of W. F. Beer the report was accepted and filed.

There were no reports for the Committees on Public Health and Legislation, Medico-Legal, and Boy Scouts. The report of the Special Committee on the Fee Schedule was postponed until the next meeting.

The report of the Necrology Committee, J. U. Giesy, chairman, upon a motion of Clark Young was accepted and filed.

W. R. Tyndale, chairman, reported for the Library Committee. O. J. La Barge moved that the report be accepted and filed. Motion seconded and carried.

The report of the Public Lectures Committee, A. L. Huether, chairman, was read by the secretary. E. M. Neher moved that the report be accepted and filed. Motion seconded and carried.

R. T. Woolsey, chairman, reported for the Telephone Directory Committee, and upon a motion of B. I. Burns this report was accepted and filed.

E. M. Neher reported for the Committee on Medical Economics. This report, which was the result of extensive study of credit conditions in Salt Lake County, was of such interest that Fred Stauffer moved that this subject be made the object of discussion at some future executive session. The motion was seconded and carried.

D. G. Edmunds, chairman, reporting on the Committee on Law Enforcement, cited the recent activities of the Board of Registration regarding the irregular medical practices by certain druggists, physicians, and quasi-medical practitioners. Upon a motion of C. M. Benedict the report was accepted and filed. R. R. Hampton moved that the secretary be instructed to send a letter of commendation and appreciation to the department of registration with an offer to coöperate in every possible way in the completion of this work. Motion seconded and carried.

M. M. Nielson reported for the Program Committee and delivered his address as retiring president. F. Stauffer moved that the report of the Program Committee be accepted, and that the following resolution, drawn up by this committee, be adopted:

Whereas, It is not the purpose of the Salt Lake County Medical Society to assist in the exploitation of manufacturers; and

Whereas, The Salt Lake County Medical Society feels that it may avoid complicated situations if no precedent is set; therefore be it

Resolved, That this society go on record as holding in disfavor addresses in official session by representatives of commercial houses, unless official sanction is given by the entire society.

This resolution was seconded and carried.

In his presidental address, M. M. Nielson reviewed the progress made during the year, mentioning especially that the Radium Corporation kindly donated to the society $600 to be used in helping to defray the expenses of the medical library; also the introduction of a directory of all members in good standing of the Salt Lake County Medical Society on the inside of the front cover of the telephone directory. He also suggested that this society should prepare a letter to be sent to all the various civic and religious organizations informing them that the society would be happy to furnish competent speakers on subjects pertaining to health, and that an educational article for the laity be published weekly in the local press.

The following constitutional amendment was passed: A scientist holding a doctor's degree is eligible for associate membership provided he resides in Salt Lake County. Such an associate member shall pay the regular dues, but shall not be entitled to vote or to hold office; but shall be elected to membership in the same manner in which a regular member is elected.

The society then proceeded to elect officers for the ensuing year, 1931. The following officers were elected: F. M. McHugh, president; E. M. Neher, vice-president; B. E. Bonar, secretary; C. R. Cornwall, treasurer; and S. G. Kahn, censor.

C. J. Pearsall and J. Z. Brown escorted F. M. McHugh to the president's chair. He made a few remarks regarding the ancestors of members of this society, and stated that he hoped that during the ensuing year that the members of the society would help to keep the laity well informed of what the medical profession has done and is doing.

R. M. Tandowsky moved that the society extend a vote of thanks to the outgoing officers for their past year's work. Motion seconded and carried.

The meeting was adjourned at 10:45 o'clock, after which refreshments were served.

Barnet E. Bonar, *Secretary.*

UTAH COUNTY

The regular meeting of the Utah County Medical Society was held at the Hotel Roberts, Wednesday evening, December 10, 1930.

The following members were present: Doctors Merrill, Oaks, Robison, Hagan, Hasler, R. G. Clark, J. R. Anderson, J. W. Aird, and J. L. Aird.

Dr. Charles Johnson of Salt Lake City, professor in the department of physiology and pharmacology, gave a very interesting paper of his original research work on "The Pharmacological and Toxic Effects of Sodium Nitroprussid." Doctor Johnson's work was all done in animal experimentation, and has shown that the cyanogen group in nitroprussid is relatively inert, that the nitrite group gives the same blood pressure lowering effect as the other nitrites.

Following this splendid paper, Doctor Oakes moved that Doctor Johnson be given a vote of thanks by the society for visiting us and delivering this paper. This was seconded, and passed unanimously.

No business was transacted.

* * *

A meeting of the Utah County Medical Society was held on December 17 in order to meet with the state association officers and to elect society officers for the year of 1931.

President Rich, Secretary-Treasurer Critchlow and Doctor Brown from Salt Lake City and Doctor Pearce from Brigham City were present. Each gave a talk pertaining to the state and national medical association affairs. They made special reference to the increasing numbers of malpractice suits, and gave as the remedy for better protection a closer association of doctors in their local medical society and better coöperation with each other in their work.

The officers for the year 1931 were nominated and elected unanimously as follows: A. B. Robison, president; J. Karl Beck, vice-president; Charles M. Smith, secretary-treasurer.

The election of delegates and alternates was postponed until next year.

A motion was passed that the president appoint a man or a committee to represent the Utah County Society in the state association's Committee on Policy and Public Relations.

The following members were present: Doctors C. M. Smith, Worlton, Grua, Houston, Neill, J. W. Aird, J. L. Aird, and Hasler. Doctors Oaks, Cullimore and Robison came in, following the dinner.

J. L. Aird, *Secretary.*

WEBER COUNTY

The regular annual banquet and meeting of the Weber County Medical Society was held December, 18, 1930, in the Hotel Bigelow. It was attended by the state society president, Dr. William Rich, Secretary M. M. Critchlow, and President-elect R. A. Pearse of Brigham City; Councilmen Morton, John Brown, and E. R. Dumke; James P. Kerby, chairman of the Committee on Medical Legislation.

Dr. E. P. Mills of the local society gave an interesting travelogue of his trip abroad.

Conrad H. Jensen, *Secretary.*

UTAH NEWS

Arrangements are being made by the Utah Medical Association to go on the air in the near future. Numerous men throughout the state have been asked to write brief papers on timely subjects for broadcasting in five-minute talks for public education. The subjects will be handled in a general way and no treatment recommended or suggested, but a sincere effort made to instruct the public in the nature of disease and its prevention through hygiene and such means as vaccination. A broadcasting team is being organized in Salt Lake, and it is already assured of much material from local men of the state and from the American Medical Association, through the coöperation of Dr. John M. Dodson, who is prepared to furnish them with clip sheets from *Hygeia* for use in their programs.

* * *

The State of Utah has taken a great step in advance in coming into the list of states where definite provision is made for the training and care of its feeble-minded. The 1929 legislature appropriated $300,000 for the purpose of acquiring a site and starting the construction of the Utah State Training School. A site of approximately five hundred acres has been acquired at American Fork, thirty miles south of Salt Lake, in the very center of the state's population, and contracts have been awarded for the construction of the main buildings to accommodate a population of approximately two hundred. Actual construction work will be started during the winter, and the school completed for occupancy by July 1931. The present legislature is being asked to make a further appropriation to equip these buildings and to complete other buildings necessary to put the school in full operation. It is estimated that the State of Utah has five hundred cases of feeble-minded persons, capable of receiving training and requiring institutional care.

An extensive study has been made of other institutions and this school has been planned under the direction of the late Dr. George L. Wallace of the Wrentham School, Dr. T. J. Allen of the Vermont State School, Dr. D. O. Calder of Hollywood, California, and Dr. James Lewald of the St. Louis Training School, and it is expected that the institution when completed will represent the most advanced ideas in construction and operation in this field. Up to this time there never has been an institution in Utah nor any definite plan for the care and training of the feeble-minded, and the board of trustees are now seeking a superintendent who is qualified to handle this school and at the same time handle additional work along this line throughout the state.

* * *

Immunization from diphtheria and smallpox was given to almost twelve hundred pupils of the Alpine, Provo, and Nebo school districts during the past two months, according to a report from Mrs. Evalina Reed, nurse of the Utah County health unit.

The report indicated that 519 pupils were inoculated for diphtheria in the Nebo district, 397 in the Alpine, and 271 in the Provo school district. It was also reported that 478 students were vaccinated for smallpox in the Nebo district, 438 in the Alpine, and 206 in the Provo district.

The doctors that assisted in the work were: F. D. Worlton, V. F. Houston, J. F. Noyes, Guy S. Richards, O. E. Grua, Stanley Clark, Garn Clark, Cecil Clark, Fred Taylor, Albert Taylor, C. M. Smith, Arnold Robinson, Walter T. Hasler, J. L. Aird, George Anderson, Glen Neill, John Anderson, Joseph Hughes, L. D. Stewart, A. E. Callahan and B. C. Linebaugh.

MISCELLANY

Items for the News column must be furnished by the twentieth of the preceding month. Under this department are grouped: News; Medical Economics; Correspondence; Department of Public Health; California Board of Medical Examiners; and Twenty-five Years Ago. For Book Reviews, see index on the front cover, under Miscellany.

NEWS

Lane Lectures.—The Stanford University School of Medicine has announced the forty-ninth course of popular medical lectures which will be given at Lane Hall, north side of Sacramento Street, near Webster, on alternate Friday evenings, 8 o'clock sharp. All interested are cordially invited to attend.

On Friday evening, February 20, 1931, "Minor Pelvic Ailments of Women" will be the subject of Dr. Ludwig A. Emge's talk.

"Past and Present Concepts in Oriental Medicine," by Emile Holman, M. D., will be given on Friday, March 6, and on March 20, "Indigestion, Its Meaning and Management," will be discussed by Arthur L. Bloomfield, M. D.

Public Health Exhibits at County Fairs.—At the 1929 American Medical Association conference of state medical society secretaries and editors, a most interesting paper on "Public Activities of the Nebraska State Medical Association was read by Dr. E. R. Hays, secretary of the Nebraska association. The paper was printed in the *American Medical Association Bulletin* of January 1930. The editor of California and Western Medicine was so impressed with what Nebraska had been able to accomplish in its public health education that the Council of the California Medical Association allocated funds for a beginning of similar work in California. The editor also secured a list of California fairs with their approximate dates of opening and closing. This list of fairs is here printed for the information of component county societies and of members who are interested. The standing Committee on Health and Public Instruction is making a further study of the Nebraska plan, and it is hoped that a beginning can be made in county fair public health exhibits during the current year.

The data concerning California fairs follows:

Meeting of American College of Surgeons, California-Nevada Section.—The California-Nevada Section of the American College of Surgeons holds its next annual meeting in Oakland, April 24 and 25. The Committee on Arrangements, composed of the Alameda County members of the college, met and organized recently, electing Dr. O. D. Hamlin, chairman; Dr. Charles A. Dukes, secretary, and Dr. George G. Reinle, treasurer.

In addition to the members of the college, the whole medical profession of the states of California and Nevada are especially invited, as the session will be of extreme interest to all. The program committee has arranged for clinics at the various local hospitals for the visiting men, and in addition to the regular scientific discussion, has planned for a great meeting for the general public at which men of prominence in public health and preventive medicine will speak.

"Medical Center" Adopted as Name for University of California Group of Professional Schools.—At a meeting of the deans of the professional colleges and the director of Hooper Foundation for Medical Research of the University of California, it was voted to apply the term "Medical Center" to the schools, colleges, and research centers considered collectively. The group has been known as the "Affiliated Colleges," although the medical school, the college of dentistry, the college of pharmacy and Hooper Foundation have been integral parts of the University of California for many years and the name itself officially abandoned. The term "Medical Center" was considered appropriate for the group because the University Hospital receives cases from all parts of the state, the out-patient department offers treatment to patients from practically every county in the state; the college of dentistry clinic furnishes dental work to needy individuals for about the cost of materials, and Hooper Foundation for Medical Research and the pathology department of the medical school are coöperating with public health agencies and physicians everywhere. In addition, the Medical Center is now taking steps to protect California from tropi-

California Fair Dates
(Tentative)

Name of Fair	Secretary	Dates Held	Place Held
Imperial County Fair	....	Feb. 25 to March 2	Imperial
Bells of Solano Exposition	D. A. Weir	May 24 to June 1	Fairfield
San Leandro Cherry Festival	N. W. Armstrong	June 2 to 7	San Leandro
California Sweet Pea Show	Fred S. McCarger	June 10 to 11	Salinas
California Rodeo	Fred S. McCarger	July 16 to 20	Salinas
Hilmar Community Fair	A. W. Caldwell	Aug. 6 to 7	Hilmar
Santa Barbara County Fair	J. H. Chambers	Aug. 12 to 16	Santa Maria
San Joaquin County Fair	Ed G. Vollman	Aug. 18 to 26	Stockton
California State Fair	Chas. W. Paine	Aug. 30 to Sept. 7	Sacramento
Glenn County Fair	E. A. Kirk	Sept. 9 to 14	Orland
Fresno District Fair	Treffle LaSenay	Sept. 9 to 14	Fresno
Merced County Fair	R. Casad	Sept. 10 to 13	Merced
Los Angeles County Fair	C. B. Afflerbaugh	Sept. 12 to 21	Pomona
Tulare County Fair	Harry W. Perry	Sept. 16 to 20	Tulare
Southern California Fair	Cecelia G. Gravens	Sept. 23 to 28	Riverside
Kern County Fair	L. B. Nourse	Sept. 23 to 28	Bakersfield
Siskiyou County Fair	R. O. Gwyn	Sept. 26 to 28	Yreka
Orange County Fair	H. A. Lake	Sept. 30 to Oct. 5	Santa Ana
Ventura County Fair	W. G. Wilde	Oct. 1 to 5	Ventura
San Diego County Fair	Felix Landis	Oct. 7 to 11	San Diego
Pacific Slope Dairy Show	....	Nov. 8 to 15	Oakland

cal and oriental diseases which might be brought in through the development of world commerce.

Appointments to Committee on the Costs of Medical Care.—Dr. John M. T. Finney of Baltimore, professor of clinical surgery in the medical school of Johns Hopkins University, and Dr. David Riesman of Philadelphia, professor of clinical medicine in the medical school of the Unviersity of Pennsylvania and physician to the Philadelphia General and University Hospitals, have been appointed consultants to the Committee on the Cost of Medical Care. Doctor Finney and Doctor Riesman join Dr. Roger I. Lee, consultant in internal medicine, of Brookline, Massachusetts, as consultants of the committee.

Lecture at University of California Medical School.—On Tuesday, February 24, at 12 noon, Professor Jules Duesberg of the University of Lieze, Belgium, will lecture on "How Belgium is Trying to Develop Research." Members of the faculty, students and all interested are invited to attend.

New California Directors of Public Health—Drs. Porter of Los Angeles and Sabichi of Bakersfield Appointed by Governor Rolph.—A news dispatch in the Los Angeles *Times* of date of January 27, is as follows:

Sacramento, January 27 (AP).—Governor Rolph today announced appointment of Dr. Giles S. Porter of Los Angeles as director of the State Department of Public Health, to succeed Dr. Walter M. Dickie, resigned.

Dr. George C. Sabichi, Bakersfield, was appointed assistant director and chief of the division of epidemiology, which handles communicable disease work.

Both Doctors Porter and Sabichi, the Governor said, were highly recommended to him by Doctors George Parrish and William C. Hassler, health officers of Los Angeles and San Francisco, respectively. Doctor Sabichi succeeds Dr. Jacques S. Gray, Santa Rosa, who resigned some time ago.

American Board of Obstetrics and Gynecology.—The American Board of Obstetrics and Gynecology, composed of nine members and examiners, elected by the American Association of Obstetricians, Gynecologists and Abdominal Surgeons, the American Gynecological Society, and the Section on Obstetrics, Gynecology and Abdominal Surgery of the American Medical Association, was formally organized in Niagara Falls, September 16, 1930. The function of the board is to grant certificates indicating proficiency and specialization in obstetrics or gynecology, or both, to those who comply with its requirements. This board has been in the process of organization since 1927. It puts into action a determined effort on the part of these three national organizations to improve the standards of practice of obstetrics and gynecology. The board does not intend in any way to interfere with or limit the professional activities of any duly licensed physician, but it does aim toward standardized qualifications for specialists in obstetrics and gynecology. Any well qualified obstetrician and gynecologist should have no difficulty in obtaining a certificate and the board is desirous of receiving applications from those to whom this applies. The first examination for candidates will be held simultaneously in nineteen different cities of this country and Canada on Saturday, March 14, 1931. Detailed information and application blanks may be secured from Dr. Paul Titus, secretary, 1015 Highland Building, Pittsburgh, Pennsylvania.

American College of Physicians.—The fifteenth annual clinical session of the American College of Physicians will convene in Baltimore, Maryland, March 23-27, and in Washington, D. C., March 28, 1931. Held in important medical centers, these clinical sessions constitute, perhaps, the most important postgraduate week in internal medicine each year. Those who attend the meeting will find ample in the way of clinical, laboratory, research and historical interest, well to repay them for the time spent in making the journey.

The entire program of the clinical session is characterized by new subjects, new authors and wide geographic representation.

Hotel headquarters will be at the Lord Baltimore Hotel, while general headquarters, at which the registration of members, commercial exhibits and all general sessions will be held, will be the Alcazar, Cathedral and Madison streets, Baltimore. Transportation on the certificate plan of reduced fares will be available to all physicians and dependent members of their family from all parts of the United States and Canada.

Mr. E. R. Loveland, 133-135 South Thirty-sixth Street, Philadelphia, is the executive secretary of the college, and it is to him that requests for further information or programs should be addressed.

New Psychiatric Directory.—In 1928, the second edition of the *Directory of Psychiatric Clinics for Children in the United States*, was published. This directory included, in addition to a list of clinics offering psychiatric service for children, a brief description of any psychiatric services conducted by state departments, a list of state hospitals and institutions for mental cases, and a statement of the activities of state and local societies for mental hygiene. In addition to what was obtained in 1928, material will be gathered relative to psychiatric clinics for adults.

The success of this compilation depends largely on the coöperation and assistance of the directors of psychiatric clinics.

All neurological, neuropsychiatric and psychiatric clinics accepting psychiatric cases for psychiatric study and treatment should be included in this directory. Information from anyone regarding any clinic not included in the last directory will be greatly appreciated, together with any other suggestions as to ways in which the directory may be made more useful. Address information to George S. Stevenson, M. D., Director Division on Community Clinics, the National Committee for Mental Hygiene.

MUCH IN LITTLE *

Esteem the counsel of elders—their wisdom is of experience.

Elders use laboratory findings for all they are worth.

Keep a card index—then you will know "the kind of medicine I gave you last time."

Cleanse your hands, thermometer and hypodermic in the presence of the patient.

Treat no complaint with levity or the complainer will feel hurt. Many trifling ailments become serious.

Throw away none of your colleague's medicines when called to a patient he has been treating, or the patient will think less of you.

Do not promise a recovery. Always be a guarantor of service.

A prognosis of death and the patient lives,
His friends will forget and forgive.
They never forget you though they may forgive,
When he dies and you said he'd live.

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* Members of the California, Nevada and Utah Medical Associations are invited to contribute to this column of aphorisms, which will appear from time to time in California and Western Medicine, as sufficient copy accumulates. The aphorisms in this issue were sent in by John William Shuman, M. D., Los Angeles.

MEDICO-LEGAL

A COUNTY SOCIETY EXPULSION COMPLICATION

On a Suit for Slander.—The following interesting news items appeared in the daily press, as coming over the Associated Press wires. Some members who perused the revised constitution and by-laws of the California Medical Association may have wondered why the sections dealing with complaints of an ethical nature against members of component county societies were so explicitly drawn. That was done in an effort to prevent the unpleasant consequences which can sometimes result if accepted and fundamental legal procedures are not properly observed when a physician is on trial before his fellows on a charge of unethical conduct. The editor does not know the details of the Spokane case. The press dispatches are here reprinted so that all county society members and officers who have or who assume responsibilities in these matters may be reminded to be alert to the legal and other phases of such questions and problems in ethics, in case such problems in ethics should come before them. All component county societies are obligated to observe the requirements laid down by the parent state association. County society by-laws which do not include the safeguards laid down in the state association constitution and by-laws should be amended to conform therewith.

The news dispatches follow:

Excerpt from San Francisco Examiner, January 4, 1931:

Doctor Wins $30,000 Damages for Ouster

Spokane (Wash.), January 4.—(AP).—Dr. W. W. Robinson, who was expelled from the Spokane County Medical Association, was awarded $30,000 tonight by a jury which heard his suit against ten Spokane physicians whom he accused of conspiracy to slander.

* * *

Excerpt from San Francisco Call, January 6, 1913:

Doctor Wins Suit for $30,000 Aimed at Other Medicos

Spokane (Wash), January 6, (AP).—Ten doctors ordered to pay $30,000 to Dr. W. W. Robinson for "slandering and humiliating" him by expelling him from the Spokane County Medical Society will appeal the case, it was made known today by their counsel.

A jury verdict gave the award to Robinson, who had sued for $60,000. He has a libel suit for $30,000 pending against Dr. Charles S. Ward and Dr. Carroll Smith for publishing charges against Robinson in a medical journal.

The case began with a malpractice suit, Robinson contended, in which he testified against a doctor who performed improperly an operation on a girl. Robinson said this "set the doctors against him."

INCOME TAX REPORTS OF PHYSICIANS

Income Tax Reports.—Income tax reports are something which must be made out by the great majority of members of the California, Nevada, and Utah Medical Associations. Inasmuch as exemptions allowed by the federal government are of a somewhat technical nature, and because mistakes are apt to cause financial loss, it seems proper to again print a digest of the general rulings which apply to physician citizens.

The taxpayer who is required to make a return must do so on or before March 15, unless an extension of time for filing the return has been granted. For cause shown, the collector of internal revenue for the district in which the taxpayer files his return may grant such an extension, on application filed with him by the taxpayer. This application must contain a full recital of the causes for the delay. Failure to make a return may subject the taxpayer to a penalty of 25 per cent of the amount of the tax due.

The normal rate of tax on individual citizens or residents of the United States, under the Revenue Act of 1928, is 1.5 per cent on the first $4000 of net income in excess of the exemptions and credits, 3 per cent on the next $4000, and 5 per cent on the remainder.

WHO MUST FILE RETURNS

1. Returns must be filed by every person having a gross income of $5000 or more, regardless of the amount of his net income on his marital status. If the aggregate gross income of husband and wife, living together, was $5000 or more, they must file a joint return or separate returns, regardless of the amounts of their joint or individual net incomes.

2. If gross income was less than $5000, returns must be filed (a) by every unmarried person, and by every person married but not living with husband or wife, whose net income was $1500 or more, and (b) by every married person, living with husband or wife, whose net income was $3500 or more. If the aggregate net income of husband and wife, living together, was $3500 or more, each may make a return or both unite in a joint return.

If the marital status of a taxpayer changed during the tax year, the amount of income necessary to bring him within the class required to make returns should be ascertained by inquiry of the local collector of internal revenue.

As a matter of courtesy only, blanks for returns are sent to taxpayers by the collectors of internal revenue, without request. Failure to receive a blank does not excuse anyone from making a return; the taxpayer should obtain one from the local collector of internal revenue.

The following discussion covers matters relating specifically to the physician. Full information concerning questions of general interest may be obtained from the official return blank or from the collectors of internal revenue.

GROSS AND NET INCOMES—WHAT THEY ARE

Gross Income.—A physician's gross income is the total amount of money received by him during the year from professional work, regardless of the time when the services were rendered for which the money was paid, plus such money as he has received as profits from investments and speculation, and as compensation and profits from other sources.

Net Income.—Certain professional expenses and the expenses of carrying on any enterprise in which the physician may be engaged for gain may be subtracted as "deductions" from the gross income, to determine the net income on which the tax is to be paid. An "exemption" is allowed, the amount depending on the taxpayer's marital status during the tax year, as stated before. These matters are fully covered in the instructions on the tax return blanks.

Earned Income.—In view of the credit of 25 per cent allowed on earned net income, the physician should state accurately the amount of such income as distinguished from his receipts from other sources. Earned income means professional fees, salaries and wages received as compensation for personal services rendered. From this, in the computation of the tax, must be subtracted certain "earned income deductions." The difference is the "earned net income."

A physician may include as "earned" income money paid by patients who were looked after in part by his assistants. In order to do so, however, the patients on whose account the money was paid must have been in fact the patients of the physician-taxpayer and have looked to him as responsible for the services performed. Moreover, the services must have been performed under the physician-taxpayer's supervision.

The first $5000 of an individual's net income from all sources may be claimed, without proof, to be earned net income, whether it was or was not in fact earned within the meaning set forth in the preceding paragraph. Net income in excess of $5000 may be claimed as earned if it in fact comes within that category. However, a taxpayer may not claim, as earned, net income in excess of $30,000.

The conditions relating to the computation of the tax on earned income are too elaborate to be stated here. In case of doubt, physicians should consult collectors of internal revenue.

DEDUCTIONS FOR PROFESSIONAL EXPENSES

A physician is entitled to deduct all current expenses necessary in carrying on his practice. The following statement shows what such deductible expenses are and how they are to be computed:

Office Rent.—Office rent is deductible. If a physician rents an office for professional purposes alone, the entire rent may be deducted. If he rents a building or apartment for use as a residence as well as for office purposes, he may deduct a part of the rental fairly proportionate to the amount of space used for professional purposes. If the physician occasionally sees a patient in his dwelling house or apartment, he may not, however, deduct any part of the rent of such house or apartment as professional expense; to entitle him to such a deduction he must have an office there, with regular office hours. If a physician owns the building in which his office is located, he cannot charge himself with "rent" and deduct the amount so charged.

Office Maintenance.—Expenditures for office maintenance, as for heating, lighting, telephone service and the services of attendants, are deductible.

Supplies.—Payments for supplies for professional use are deductible. Supplies may be fairly described as articles consumed in the using; for instance, dressings, clinical thermometers, drugs and chemicals. Professional journals may be classified as supplies, and the subscription price deducted. Amounts currently expended for books, furniture and professional instruments and equipment, "the useful life of which is short," may be deducted; but if such articles have a more or less permanent value, their purchase price is a capital expenditure and is not deductible.

Equipment.—Equipment comprises property of more or less permanent value. It may ultimately be used up, deteriorate or become obsolete, but it is not in the ordinary sense of the word "consumed in the using"; rather, it wears out.

Payments for equipment or nonexpendable property for professional use cannot be deducted. As property of this class may be named automobiles, office furniture, medical, surgical and laboratory equipment of permanent value, and instruments and appliances constituting a part of the physician's professional outfit and to be used over a considerable period of time. Books of more or less permanent value are regarded as equipment, and the purchase price is therefore not deductible.

Although payments for equipment or nonexpendable articles cannot be deducted, yet from year to year there may be charged off against them reasonable amounts as depreciation. The amounts so charged off should be sufficient only to cover the lessened value of such property through obsolescence, ordinary wear and tear, or accidental injury. If improvement to offset obsolescence and wear and tear or injury has been made, and deduction for the cost claimed elsewhere in the return, claim should not be made for depreciation.

A hard and fast rule cannot be laid down as to the amount deductible each year as depreciation. Everything depends on the nature and extent of the property and on the use to which it is put. Five per cent a year has been suggested as a fair amount for depreciation on an ordinary medical library. Depreciation on an automobile would obviously be much greater. The proper allowance for depreciation of any property is that amount which should be set aside for the tax year in accordance with a reasonably consistent plan, not necessarily at a uniform rate, whereby the aggregate of the amounts so set aside, plus the salvage value, will at the end of the useful life of the property in the business equal the purchase price of the property or, if purchased before March 1913, its estimated value as of that date or its original cost, whichever may be the greater. The physician must in good faith use his best judgment and make such allowance for depreciation as the facts justify. Physicians who, from year to year, claim deductions for depreciation on nonexpendable property will do well to make annual inventories, as of January 1, each year.

Medical Dues.—Dues paid to societies of a strictly professional character are deductible. Dues paid to social organizations, even though their membership is limited to physicians, are personal expenses and not deductible.

Postgraduate Study.—The Commissioner of Internal Revenue holds that the expense of postgraduate study is not deductible.

Traveling Expenses.—Traveling expenses, including amounts paid for transportation, meals and lodging, necessarily incurred in professional visits to patients and in attending medical meetings for a professional purpose, are deductible.

AUTOMOBILES

Payment for an automobile is a payment for permanent equipment, and is not deductible. The cost of operation and repair, and loss through depreciation, are deductible. The cost of operation and repair includes the cost of gasoline, oil, tires, insurance, repairs, garage rental (when the garage is not owned by the physician), chauffeurs' wages, etc.

Deductive loss through depreciation is the actual diminution in value resulting from obsolescence and use, and from accidental injury against which the physician is not insured. If depreciation is computed on the basis of the average loss during a series of years, the series must extend over the entire estimated life of the car, not merely over the period in which the car is in the possession of the present taxpayer.

If the automobile is used for professional and also for personal purposes—as when used by the physician for recreation, or used by his family—only so much of the expense as arises out of the use for professional purposes may be deducted. A physician doing an exclusive office practice and using his car merely to go to and from his office cannot deduct depreciation or operating expenses; he is regarded as using his car for his personal convenience and not as a means of gaining a livelihood.

What has been said with respect to automobiles applies with equal force to horses and vehicles and the equipment incident to their use.

MISCELLANEOUS

Laboratory Expenses.—The deductibility of the expenses of establishing and maintaining laboratories is determined by the same principles that determine the deductibility of other corresponding professional expenses. Laboratory rental and the expenses of laboratory equipment and supplies and of laboratory assistants are deductible when under corresponding circumstances they would be deductible if they related to a physician's office.

Losses by Fire, etc.—Loss of and damage to a physician's equipment by fire, theft or other cause, not compensated by insurance or otherwise recoverable, may be computed as a business expense, and is deductible, provided evidence of such loss or damage can be produced. Such loss or damage is deductible, however, only to the extent to which it has not been made good by repair and the cost of repair claimed as a deduction.

Insurance Premiums.—Premiums paid for insurance against professional losses are deductible. This includes insurance against damages for alleged malpractice, against liability for injuries by a physician's automobile while in use for professional purposes, and against loss from theft of professional equipment, and damage to or loss of professional equipment by fire or otherwise. Under professional equipment is to be included any automobile belonging to the physician and used for strictly professional purposes.

Expense in Defending Malpractice Suits.—Expenses incurred in the defense of a suit for malpractice are deductible as business expense. Expenses incurred in the defense of a criminal action, however, are not deductible.

Sale of Spectacles.—Oculists who furnish spectacles, etc., may charge as income money received from such sales and deduct as an expense the cost of the article sold. Entries on the physician's account books should in such cases show charges for services separate and apart from charges for spectacles, etc.—Journal of the American Medical Association, January 10, 1931.

* * *

Recent Decision on Community Property Reports.

A recent decision by the Supreme Court of the United States on California community tax reports may be of interest, in connection with the above. The clipping is from the Los Angeles *Herald*.

"San Francisco, January 19.—(AP).—The Supreme Court at Washington today handed down a decision permitting husbands and wives in California to file separate income tax returns. Attorneys for the Bureau of Internal Revenue here said, however, the decision would be of little or no benefit to any couple earning less than $10,000 a year, net combined income, after exemptions.

"There will be some minor benefits to taxpayers who have combined net incomes of $4000 a year or more, it was said, but those earning less will be in no way affected by today's decision.

"The normal income tax is graduated as follows: 1½ per cent on the first $4000 after deduction of exemptions; 3 per cent on the next $4000; 5 per cent on all over $8000. The surtax begins at $10,000 and is levied in addition to the normal income tax. It is graduated from 1 per cent on incomes from $10,000 to $15,000, up to 20 per cent on incomes of $200,000 and more.

"As the taxable income of a married man earning up to $7500 would be taxed only at 1½ per cent, he would gain nothing by submitting a divided return.

"For married men with incomes of $10,000, however, the situation would be this:

OLD LAW

"As a married man he is entitled to an exemption of $3500, and would thus have a taxable income of $6500. Of this sum, $4000 is taxable at 1½ per cent, or $60, and the remaining $2500 at 3 per cent, or $75. From this total tax of $135, he would be entitled to an "earned income credit" of $5.62, leaving his tax payment $129.38.

NEW LAW

"The man and wife would file separate returns of $5000 each and each would deduct half of the total exemption of $3500, or $1750 each. This would leave each with a taxable income of $3250 on which each would pay a tax of $43.13, or a total of $86.26, as compared with $129.38 for the undivided return.

"In the case of a man with an income of $15,000, the saving in taxes would be $135.62, and the income would escape the surtax altogether."

PUBLIC HEALTH WORK

SOME EXCERPTS FROM THE REPORT OF THE HEALTH DEPARTMENT OF THE CITY OF LOS ANGELES

The growth which in recent years has taken place in some of the municipal, county, and state public health departments of the United States has been little less than remarkable. In California several examples of such special development may be observed. In a former number of California and Western Medicine, editorial comment was made on the growth and scope of the Los Angeles County Health Department.

The annual report of the health department of the city of Los Angeles for the last fiscal year has just come off the press in the form of an eight by eleven inches, ninety-page booklet. The budget appropriation for this department for the last fiscal year was $740,657 (salaries, $615,987; expense, $110,510; and equipment, $14,160). For the information of readers of California and Western Medicine who are interested, some excerpts are here reprinted.

* * *

The first quotation is from the report of the city health officer, Dr. George Parrish:

Finances:

"The questions of taxation and high cost of government are doubtless of paramount importance to most citizens. Particularly are these questions of outstanding importance to the citizens of the city of Los Angeles, for they are obliged to support two major governments—the city and the county.

"This should be stopped. Steps should immediately be taken either for a unified government of the entire county or the city should secede and extend its own border so as to form a county itself, embracing the greater part of that district now known as the metropolitan area. Such a move would save millions of dollars annually to the citizens of Los Angeles City and do away with friction, red tape, incompetency, overlapping and duplication. . . . . .

"There is a complete dual government, but let us study the health departments.

"The citizens of Los Angeles under the present system of government are not only supporting their own city health agencies, but are contributing 60 cents on every dollar appropriated toward the maintenance of an expensive county health department. In other words, the city residents spend $750,000 a year on their own health department and approximately an equal sum on the county health department, for the latter's budget is nearly twice as large as that of the city.

"At present the public is supporting two health officers, two sets of clerks, two sets of automobiles, two directors of tuberculosis, two chief sanitarians; two chief nurses, two chief quarantine inspectors, two main laboratories; they occupy two buildings and hold daily two complete sets of clinics.

"Unnecessary competition or rivalry frequently causes a great waste of funds. We have an example of this in our county where over $500,000 has been spent within a few years for extravagant, expensive health centers.

"As a matter of fact, costly structures are not needed. The county has spent $98,776 for a health center in Belvedere; $55,000 in Compton; $75,000 in Pomona; $50,000 in San Fernando; $80,000 in Santa Monica; $100,000 in Alhambra, and many smaller sums. Los Angeles citizens contributed the major portion of the expense of these edifices, although they obtain no direct benefit.

"It is a fine thing for each small incorporated district to have situated on its main street a highly ornamental and expensive health building. The small town is to be congratulated on its wisdom, its foresight and its political sagacity, but it is a bad investment financially for everybody, but a good one politically. Health centers are necessary and do a fine work, when judiciously located and wisely managed. Unless great care is used, health centers easily and rapidly become branches of state medicine. They also may become financial burdens on a community.

"In Los Angeles City a much more economical, but equally effective method of reaching the people has been used. The function of a health department is prevention of disease and promotion of health. It is in the curative field only so far as it has to be—the hospitals are for that purpose. These facts are borne in mind throughout the city's program. Therefore, the city sees no excuse for the erection of showy health centers, furnished with costly equipment, necessitating an army of employees for their maintenance, in addition to a carrying charge of 9 per cent on the investment for interest, insurance, wear and tear.

"The city has twenty-four health centers conveniently located throughout the city. Six or eight-room bungalows are rented at $50 a month which answer every purpose. These are nicely equipped. As population shifts, the lease expires and a new location is sought, for there is no top-heavy investment to prevent the health department following the poor. In pointing out these few economies, the city health department also wishes to emphasize some of its own weaknesses. It stands in need of improvement and better support. A central health department building is an immediate need. The use of the present building is but a makeshift and makeshifts are always expensive. Moreover, there is an urgent need for more personnel. Additional doctors are needed for a more vigorous toxin-antitoxin campaign to cut down the ravages of diphtheria; more conferences should be held to take care of the children; the volunteer physicians in the venereal clinics feel that they should receive some compensation. Some clerical help and a few additional nurses are necessary. Even with the additions, the per capita costs, now 59 cents, will still be far below that of all other large cities.

"The way to save money and do a bigger work is to consolidate. Combine all of the local health agencies and place them under one director. With practical management, the same standard as now maintained in the county and city could be continued and one-half million dollars annually saved to the taxpayers.

"I hereby respectfully submit the proposition for your consideration.

* * *

Educational Work:

"Through the medium of the press, bulletins and the radio, the department has kept the public well informed on all public activities and subjects which at the moment seemed to be of current interest. Through the courtesy of KMTR a broadcasting unit was installed in the office of the health officer. This has given us direct contact with the public and perhaps did much in the recent outbreak of infantile paralysis toward holding it to a minimum. The health commission and the health department are deeply thankful to the officials of KMTR. I also wish to take this occasion to thank the press boys in the City Hall for the generous support which they have on all occasions given to the health department. They have always been kind, courteous and reasonable, and without their assistance the health department could not have accomplished the work which it did.

"At the request of organizations, clubs, societies, schools and churches, the city health department was called upon to furnish many talks on public health of interest to these groups. Moreover, by means of divisional and generalized department gatherings, advanced lectures and instructions were imparted to the members of the department to insure their steady progress with modern advances in the field of public health.

"Transmitted herewith are the reports of the various divisions of the health department.

Respectfully submitted,
George Parrish, M. D.,
Health Officer.

* * *

Other excerpts from the reports of several chiefs of bureaus are as follows:

Population:

"The census just closed gives Los Angeles a population of 1,231,830. It is a fact worthy of special mention that out of this vast multitude there were only 181 deaths from the twelve quarantinable diseases. This speaks in eloquent terms of the good results obtained from toxin-antitoxin, typhoid and smallpox vaccine, Pasteur treatments, and of the efficient work done by the quarantine division. In 1926 there were 200 deaths from smallpox, but in the four years since then, there has been only one such death, which followed close upon the heels of the 200. This record is directly traceable to the intensive vaccination campaign. . . .

"A few remarks in connection with a number of these diseases will help to throw some light on the problem involved in their control.

Smallpox Increasing:

"There were 164 cases of this disease in the city this year, which is a decided increase over last year, when there were twenty-nine cases. There were no deaths either this year or last year. The cases are mild for the most part, but now is the time to start a vaccination campaign, for smallpox, unless curbed, will increase in the number of cases yearly and end in a burst of deadly virulence as it did in 1926. At that time 200 persons lost their lives, not a single one of whom was protected by vaccination. No one needs to have smallpox. It is a problem of the health department to educate the people to know this, and to overcome their indolence and indifference. The health department vaccinates free of charge. Vaccination is far cheaper than smallpox, for the city as well as for the individual.

Measles Epidemic:

"Epidemics of measles usually occur every two years. For the fiscal year ending June 30, 1927, Los Angeles had 11,033 cases with forty-one deaths. Most of the cases, as usual, occurred during the spring months. For some unknown reason, our present epidemic was delayed almost a year. There were 6378 cases reported this year, with exactly the same number of deaths as in 1927—forty-one. A little more than half as many cases but a higher death rate in proportion. This disease is particularly deadly in infants. Those over five years of age nearly always recover. The death rate, however, does not tell the whole story by any means, for sequelae are of common occurrence and measles gives a foothold to many other diseases.

Undulant Fever:

"Six cases and no deaths as against eight cases, no deaths last year. A milk-borne disease here traceable in every instance to drinking raw milk from untested herds. There is no danger from pasteurized milk, and all certified dairies in California test their cows regularly. Do not drink unpasteurized milk (raw milk) unless it be from a certified herd.

Poliomyelitis (Infantile Paralysis):

"The city has just passed through an epidemic of infantile paralysis. There were eighty-four cases in June, 158 cases in July, eighty-four cases in August and fifty-three cases in September. When this epidemic first broke out it gave every indication of being a heavy one, but fine coöperation on the part of the public did much to prevent its spread. The doctors of this city, especially the pediatricians, met at frequent intervals with the doctors of the health department and nothing was left undone in order that infantile paralysis might be held to a minimum. The members of the Council gave special assistance, appropriating $2500, which was spent in obtaining blood in order that a serum might be made which would prevent others from being paralyzed.

"The health department issued thousands of letters and bulletins and radio broadcasts, warning the people and urging them to use caution. It gave the public a history of infantile paralysis and how it was spread and treated. It kept no facts from the people, told only the truth and told that in such a manner that no one was alarmed. Pressure was brought to bear upon the health department from many sources to hide the facts or tell only a half truth. There are many persons in this community who place a dollar ahead of a human life. Such persons have little regard for facts or truth. The results accomplished by the health department justified its every action.

Epidemic Meningitis Proves Deadly:

"Eighty-two cases occurred with fifty-one deaths; this is a 10 per cent higher death rate than last year when there were 109 cases with sixty-four deaths.

"This disease is a most deadly one and the antimeningococcic serum has not been entirely satisfactory. Epidemic meningitis is caused by many different strains of meningococci and the serum does not always contain the proper antibodies. The United States Government is seeking by experimenting in its laboratories to make the remedy more efficient by adding more different strains, or key strains. The communicable disease staff of the General Hospital reports that over a short period of time using cisternal puncture and treatment, they have reduced the mortality rate in cases treated from about 57 per cent to 37 per cent. A great deal depends on early diagnosis and hospitalization. It would appear that this disease is fast becoming endemic, or, at least, has declared its intent to stay—taken out its first citizenship papers. It has been quite prevalent throughout the large cities of the country. As with other diseases hard to control, the difficulty lies with the large number of healthy carriers who themselves never become ill, but pass it onto the susceptible ones.

Psittacosis (Parrot Fever):

"The fiscal year 1929-1930 witnessed an outbreak throughout the United States of psittacosis. This strange and rare malady attacked a total of 169 persons in various parts of the country, with a loss of thirty-three lives. Incidence was between November 23, 1929, and May 7, 1930.

"Only six cases occurred within the city of Los Angeles. All recovered. The source of their infection was traced to a consignment of South American parrots arriving on the steamship Los Angeles at San Pedro Harbor, December 8, 1929. Three additional cases, traced to the same source, occurred among the passengers of the ship after it had left San Pedro Harbor for Honolulu. Two of these cases, both citizens of Los Angeles, died at Honolulu."

TWENTY-FIVE YEARS AGO *

EXCERPTS FROM OUR STATE MEDICAL JOURNAL

Vol. IV, No. 2, February 1906

From some editorial notes:

Silly Reports.—Anything to divert attention! For quite a while your JOURNAL, and its "lean and languid" (and many other adjectives!) editor, have been the recipients of comment, most of it far from complimentary, in a number of the "published-for-profit" journals. That was quite to be expected, so no particular attention has been paid to it, and the circulation and distribution of foolish statements or uncomplimentary remarks has gone right along. The last story to reach our attention is quite a new thing, however; it "takes a fall out of" the entire medical profession of the State of California. It is now going the rounds of the drug journals and doubtless, in time, will reach the pages of the "medical" journals. . . .

From a Report on "The Status of Organization Work in California" by J. W. McCormack, M.D., of Bowling Green, Kentucky:

I feel that the foregoing is a very imperfect and restricted description of local society conditions in California. I have described things as I saw them, but am convinced that what I have said gives a very inadequate conception of this great profession as a whole. For they have a great profession. Individually they are strong. Socially they are delightful. They are more prosperous financially than in any other section I have visited. But they are weak just where they need to be strong—in their county societies. In consequence, there has been little cohesion or unity of purpose, there has been no systematic or well-directed effort to secure the coöperation of the press and other educational agencies in creating and guiding public opinion in regard to medical and public health affairs, or to concentrate the influence of the profession itself upon proper legislation.

A system of local societies, composed of and uniting all of the reputable physicians in each county, meeting at short intervals and alive to, and in touch with, every proper and available power for good in their respective jurisdictions, are the only agencies through which these things can be done. In California better than in almost any other state all of the other machinery is about complete. They have a strong state society, and an able and fearlessly edited journal. . . .

From an article on "Some Remarks Concerning the Conservative Treatment of Severe Ocular Injuries" by Frank Allport, M.D., Chicago, Illinois:

It cannot be denied that many eyes are enucleated that by patience and skillful care might have been saved, and this course of ruthlessly sacrificing all eyes which are severely injured cannot be too strenuously deprecated. . . .

From an article on "Recent Complete Tears of the Perineum" by George B. Somers, M.D., San Francisco:

Injuries of the perineum are of interest to every physician who engages in general practice. They are very common and occur in the hands of even the most skillful obstetricians. When we consider the enormous number of children that are born into the world and the disproportion between the size of the unborn and the size of the canal through which nature forces them to travel, one wonders that injuries are not more common and more severe. . . .

From an article on "Mercurial Injections in Syphilis" by Howard Morrow, M.D., San Francisco:

It is generally admitted by clinicians that one large dose of mercury given hypodermatically has an action equal if not superior to pills of mercury given over a period of five or six days. The needle must be passed through the subcutaneous tissue into the muscle—the outer side of the gluteal region being the best location. If the needle and syringe are absolutely clean, and the skin sponged with alcohol, there is no danger of infection and large inflammatory areas are prevented by not giving injections at the same spot except after a lapse of a week or more. . . .

From an article on "Undrawn Poultry and Fish" by Franklin G. Fay, M.D., Sacramento.

The principal reason for introducing this subject for your consideration is the fact that toxicosis, resulting from partially decomposed foods, is so frequently encountered throughout the United States by the medical profession. This fact being accepted, it seems proper to endeavor to find the causes and remedy the evil. One cause may possibly be found in the manner in which undrawn poultry and fish are frequently placed on the market.

From Medical Society Reports:

San Francisco Society of Eye, Ear, Nose, and Throat Surgeons.—The president suggested that the society should discuss the advisability of total extirpation of the tonsils, saying: "Lately, at different meetings, the question of tonsil operations was discussed and many advocate the excision of every particle of tonsil. I myself, I must confess, have not quite made up my mind about it. What is a normal tonsil? When should we remove them and how much of them?"

Doctor Houston said that for the past year he had given up the use of the guillotine, the Myle's punch, etc., and limited himself to total extirpation of the gland with the cold wire snare. . . .

Doctor Cohn said that he could not thoroughly agree with Doctor Houston, and thought that the radical enucleation should be employed only in those cases in which the tonsils cannot be removed by any of the tonsillotomes, tonsil punches, etc. . . .

Doctor Merritt said that after operation in many of these cases there is a bit sticking out which cannot be removed with impunity for fear of taking too much. In hard and fibrous tonsils he was afraid of after-hemorrhage.

Doctor Philip does not send his tonsil patients to the hospital. He operates on the patient, where the crypts are filled with material, by removal piece by piece, the patient not losing any time from his work.

Doctor Welty divides the tonsil operations into two classes dependent upon the pathological condition. In the first class the tonsil is hypertrophied without involvement of the crypts and is not adherent to the pillars of the fauces. These tonsils can be thoroughly removed by the tonsillotome. The second class included those cases adherent to the pillars, and we operate to eliminate the crypts. Doctor Welty uses long-handled curved scissors, tonsillar forceps, blunt and sharp dissectors, and a large strabismus hook.

* * *

Alameda County Society.—The Alameda County Society held its regular monthly meeting on November 21. There was a large attendance of members who listened with the greatest interest to a discussion by Dr. Martin H. Fischer of some of the recent work on the physiology of digestion, dealing chiefly with the experimental work of Pawlow. . . .

The discussion of the paper chiefly took the form of questions, after which all present proceeded to the practical application of the subject, the committee on program having thoughtfully provided a supply of sandwiches and beer upon which the principles enunciated by the speaker could be immediately tested.

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* This column strives to mirror the work and aims of colleagues who bore the brunt of state society work some twenty-five years ago. It is hoped that such presentation will be of interest to both old and recent members.

DEPARTMENT OF PUBLIC HEALTH

By W. M. Dickie, *Director*

Departmental Reports.—Tuberculosis: The tuberculosis death rate has fallen from 127.7 per 100,000 population in 1925 to 106.3 in 1929. This is a reduction of almost 17 per cent. In 1906 the death rate for this disease was 235.7 per 100,000 population. The drop from this high rate to 106.3 per 100,000 in 1929 indicates the progress that has been made in tuberculosis control in California.

The Bureau of Tuberculosis of the State Department of Public Health has been active in raising the standards of care in county hospitals by means of the state subsidy to approved institutions, such funds being appropriated from the state treasury and allocated to the counties for expenditure.

Imported Tuberculosis: The problems related to the migration of tuberculosis cases in advanced stages to California, particularly to southern California, are very acute. This applies not only to migration from other states, but also to migration from Mexico. In 1928, 453 individuals, who had lived in California less than a year, died of tuberculosis, and 894 such deaths during that year occurred in individuals who had lived in California for periods varying from one to four years. About 20 per cent of all tuberculosis deaths in California are among Mexicans. Some of the counties of southern California are required to spend many thousands of dollars in the care and treatment of these foreign-born residents. If more satisfactory accomplishments in shutting off the tide of this immigration were made available, considerable might be accomplished in reducing the tuberculosis mortality rate of this state. It is doubtful if any other state in the Union makes such excellent efforts in the care and treatment of its indigent patients. This alone is an enormous factor in reducing the mortality rate. Continuation of this program will continue to lower the death rate of this disease still farther.

Water Supplies: The provision of adequate water supplies for large centers of population becomes more acute as the large cities grow with a speed that is nothing short of miraculous. Public water supplies in California are of the highest purity. Since surface streams are used largely, all public water supplies must be treated in order to make certain of their potability. The State Department of Public Health has stimulated activity among communities which draw their water supplies from surface sources. Not a single epidemic of water-borne typhoid has occurred within California since 1924.

Immunization Against the Infectious Diseases of Childhood.—The United States Public Health Service states that children should be vaccinated against smallpox before they are a year old. At this time they have not begun to run about and are in no danger of hitting the vaccination against hard objects or of getting dirt rubbed into it, and they are rendered immune practically from the start. On entering school they should be vaccinated again, for several reasons. In the first place, vaccination does not always protect for life; it requires reinforcement of the immunity in many individuals to make sure of protection against heavy exposures to smallpox. Fortunately, if the child already has an immunity, the new vaccination will not take. Instead, there will be merely a little red spot developing for only about a day, which is known as the "immune reaction."

We can now state also that diphtheria is an entirely preventable disease. Diphtheria antitoxin has enormously diminished the death rate among those attacked by the disease. It is an almost certain cure if given very early during the attack; but there occurs altogether too frequently some delay in its administration, so that its beneficial possibilities are not realized. This delay may be due to negligence on the part of parents or hesitation on the part of the doctor, but the child patient too often pays for it with his life. Antitoxin does not cure or prevent the condition of "carrier." "Carriers" are people who, without being sick themselves, carry about the germs of diphtheria in their throats or noses and innocently distribute them among persons with whom they come in contact. Consequently, something new was needed in the fight against diphtheria, great though the advance had been. This was found in the toxin-antitoxin mixture, evidence which suggests that it is capable of immunizing for many years those to whom it is administered, possibly for the remainder of their lives. The newer preparation known as diphtheria toxoid is probably even better. Neither of these preparations, however, can be relied upon absolutely to immunize everyone to whom it is given; and the administration of either of them should always be followed by a Schick test to find out whether immunity is complete or not. If not, additional injections should be given. It cannot be too strongly recommended to parents that they have their children immunized against diphtheria by this means. It is believed possible in this way not only to check the prevalence of diphtheria, but after a time absolutely to eradicate it. In fact, several American communities have already practically reached this goal after persistent efforts to get every child in the city immunized. Naturally, this should be done at an early age. While it is better to do it when or after the child enters school than not at all, the preschool age is the period during which the greatest danger from diphtheria occurs, and it is advised that the injections be given as soon after the age of six months as possible.

Besides the two diseases which have been discussed, smallpox and diphtheria, there are several others against which it is possible to immunize children, but for one reason or another, it is not advised that every child be so immunized. Scarlet fever, for example, is nowadays so mild among us that health authorities seldom find it necessary to recommend wholesale immunization against it. The chief value of scarlet fever immunization is in institutions where the disease, if introduced, would be likely to spread rapidly through the entire susceptible personnel unless they were protected.

In the case of measles, again it is not advised that the whole child population of a community be immunized; but, for example, if one child in a family has contracted measles, it is often possible to protect the remaining children by the administration of immune serum.

Typhoid fever is now so well guarded against in most of our cities that it would be wasteful and unnecessary for everyone to take the typhoid vaccine. Typhoid vaccination, however, is an excellent protection for persons who travel about much in places where the practice of sanitation is not well developed.

With regard to rabies, frequently referred to as hydrophobia, children who have been exposed to the bites of mad dogs should consult a doctor as to the advisability of having the Pasteur treatment administered.

Health officials are so convinced of the need for universal immunization against both smallpox and diphtheria that they are doing everything possible to make it easily available, and facilities are extended in most of the health offices for the immunization of those who for one reason or another do not consult a private physician for such services.

CALIFORNIA BOARD OF MEDICAL EXAMINERS

By C. B. Pinkham, M. D.
Secretary of the Board

The 1930 annual report of the Board of Medical Examiners recently submitted to the Governor, and which, as usual, will be published in full in the 1931 directory, shows that 644 applications of various classes were filed during the year and 552 certificates of all classes were issued:

Physicians and surgeons, after written examination	270
Commissioned medical officers	11
National board	13
Physicians and surgeons, reciprocity	219
Chiropody—Written examination	31
Chiropody—Reciprocity	3
Midwife—Written	5

The records of written examination show that 89 + per cent passed. Thirty-four states sent reciprocity applicants to us and thirty-six California licentiates sought registration in other states by reciprocity.

* * *

Thirty-six licentiates were called before the board on various charges, most of which were based on narcotic derelictions. The board's findings were as follows:

Guilty—Revoked	17
Guilty—Probation	6
Guilty—Suspended	3
Dismissed	3
Deferred to February 1931	7

The reports of the legal department, both north and south, show the usual activities, fines having been deposited with the state treasurer in the amount of $3,643.50, with $1650 still due the state treasurer from various counties.

* * *

Two hundred and thirty-nine licentiates passed to the Great Beyond.

The board's income was $50,273.04 and the expenses were $55,291.57 for the year.

The following licentiates of the Board of Medical Examiners have been cited to appear for legal hearing when the calendar is called at Independent Foresters Hall, 1329 South Hope Street, Los Angeles, at 10 a. m. February 3, 1931, to show cause why the license heretofore issued should not be revoked:

Assad Simon Abdun-Nur, M. D., Los Angeles.
Axiente S. Babienco, M. D., San Diego.
Roy Buffum, M. D., Long Beach.
Samuel D. Cotterell, M. D., Los Angeles.
Fay E. Cramer, M. D., Hawthorne.
Cecil R. Drader, M. D., Greenville.
Suzuno Eda, Midwife, Fresno.
Ernest Freeman, M. D., Fresno.
Charles M. Graham, M. D., Los Angeles.
Howard Hart, M. D., Los Angeles.
Walter W. Hopson, M. D., Los Angeles.
William I. Kingsley, M. D., San Diego.
David E. Matzke, M. D., Carmel.
Vincent Reno, M. D., New Jersey.
Victor Sheldon-Smith, M. D., Los Angeles.
Archie E. Williams, M. D., Long Beach.

"Allistro, the eminent mental scientist, will be among those absent from a matinee 'for ladies only—no one under 18 years of age admitted' at the Parkside Neighborhood Theater tomorrow. Allistro's absence from the matinee—and all other performances—will be enforced, for he pleaded guilty yesterday before Municipal Judge Theresa Meikle to violating the State Medical Act, was sentenced to six months in the county jail and won a suspended sentence when he promised to cancel his theatrical contracts . . . " (San Francisco *Chronicle*, January 15, 1931).

A. H. Bertie is reported to have pleaded guilty January 8, 1931, in Santa Barbara, to a charge of violation of the Medical Practice Act and sentenced to sixty days in the county jail, suspended for two years on condition of no further violation of the Medical Practice Act.

"Dr. Francis James Bold, Whittier physician, has appealed to the District Court of Appeal from an order of Superior Judge Leon R. Yankwich affirming the revocation by the State Board of Medical Examiners of his license to practice medicine in California . . . " (Whittier *News*, December 24, 1930).

"Public office is a public target for criticism published by citizens in good faith and for such privileged publication no recovery can be had under the California law for libel, Superior Judge Yankwich holds in an opinion just filed. It accompanies his decision that Bert A. Humason, former Chief Inspector of the State Board of Chiropractors, is not entitled to recover damages from the California Chiropractic Association and members by reason of articles published in the association's bulletin in May and September 1929. . . . The articles, though not true, were, therefore, privileged and for their publication the plaintiff cannot recover . . . " (Los Angeles *Times*, January 12, 1931).

"Gypsy Dan Chandler, so-called Main Street 'Medicine Man,'' today prepared to appeal from a $500 fine for assertedly practicing medicine without a license. He was sentenced late yesterday by Municipal Judge Charles L. Bogue after a jury found him guilty . . . " (Los Angeles *Express*, December 13, 1930).

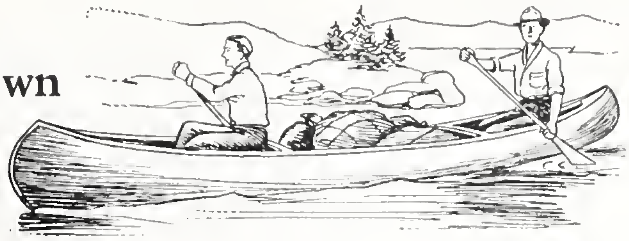
"Dr. C. M. Graham of Inglewood is today cleared of violating the Federal Narcotic Act. according to the decision by Federal Judge George Cosgrove. No evidence was introduced to show that the doctor had violated the Act or had in any way acted in bad faith, Judge Cosgrove said . . . " (Los Angeles *Record*, January 9, 1931).

"Mexico City, December 13 (AP).—The Interior Department today issued orders forbidding American and other foreign physicians to practice in Mexico. The step has been taken to protect Mexican doctors from competition . . . " (Hollywood *News*, December 13, 1930).

"How radios played soft music as patients were massaged at the Reed Health Institute on South I Street, was brought out in Justice Court yesterday when the doctor, charged with burglary, exposed what he termed the inner workings of the establishment. Mysterious music, which apparently emanated from the electrical energy passing from doctor to patient during what Fred Reed called his 'treatment by radio waves,' Doctor Bates testified, caused the doctor to investigate by entering a room. . . . 'Music could be faintly heard when the patient lay on a table to which was connected an electrical plate after the circuit was completed by the masseur standing on another plate,' Doctor Bates explained to the court. 'When the person giving the electric massage would touch the person on the table, the radio connection was complete and the mysterious music could be heard . . . " (San Bernardino *Sun*, January 6, 1931). (Previous entries, December 1928, page 432.)

"Kansas City, Kan., December 22 (AP).—Major Charles A. Shepard was convicted today on a charge of having fatally poisoned his second wife. The jury verdict carried a sentence of life imprisonment, specifying that capital punishment could not be imposed. . . . Major Shepard said later he was surprised at the verdict. 'I am absolutely innocent and this case will eventually be thrown out of court,' he declared" (San Francisco *Call-Bulletin*, December 22, 1930). Doctor Shepard formerly practiced at Needles, California.

"BEN" 'N' "RACK"—*"In Person"*



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TRUTH ABOUT MEDICINES

(Continued from Page 28)

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Gold Sodium Thiosulphate (Abbott).—A brand of sodium gold thiosulphate—N. N. R. It is supplied in ampoules containing respectively 0.05 gram, 0.1 gram, 0.25 gram, and 0.5 gram. Abbott Laboratories, North Chicago, Illinois.

Diphtheria Toxin-Antitoxin Mixture (Diphtheria Prophylactic).—This product (New and Nonofficial Remedies, 1930, p. 356) is also marketed in packages of 150 one cubic centimeter vials, fifty immunizations. The National Drug Co., Philadelphia.

Diphtheria Toxoid.—This product (New and Nonofficial Remedies, 1930, p. 365) is also marketed in packages of five immunization treatments, in packages of fifty immunization treatments. For the two-dose method of treatment the following forms are marketed: packages of one immunization treatment; packages of five immunization treatments; packages of ten immunization treatments, consisting of one vial; packages of fifteen immunization treatments, consisting of one vial; packages of fifteen immunization treatments, consisting of thirty vials, in packages

(Continued on Page 43)

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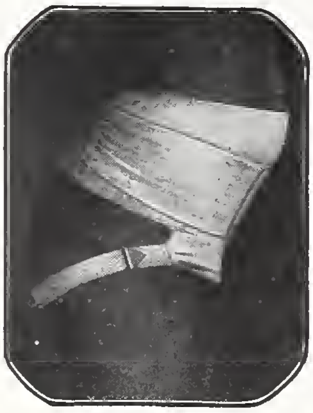

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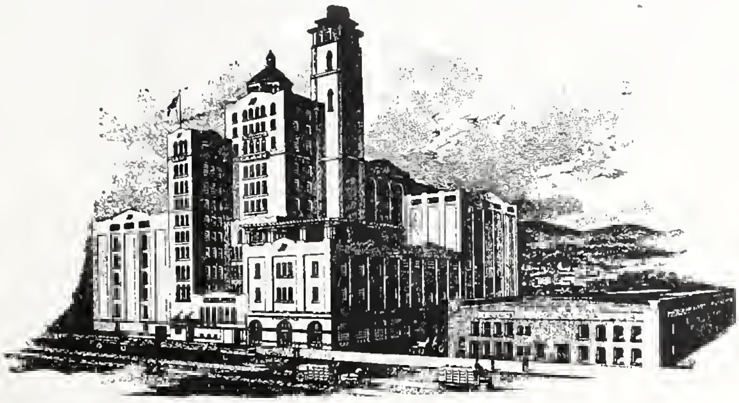

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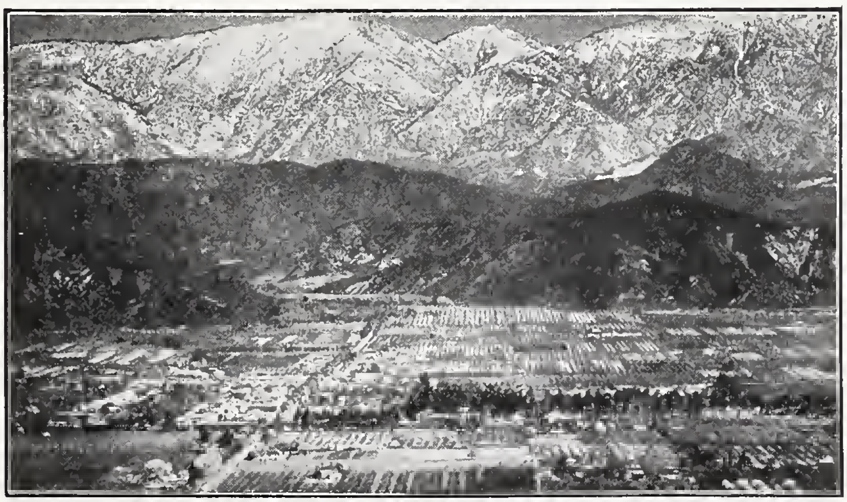

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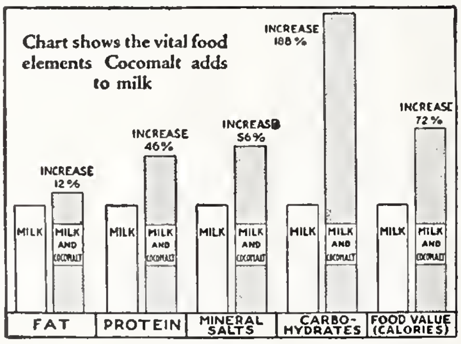

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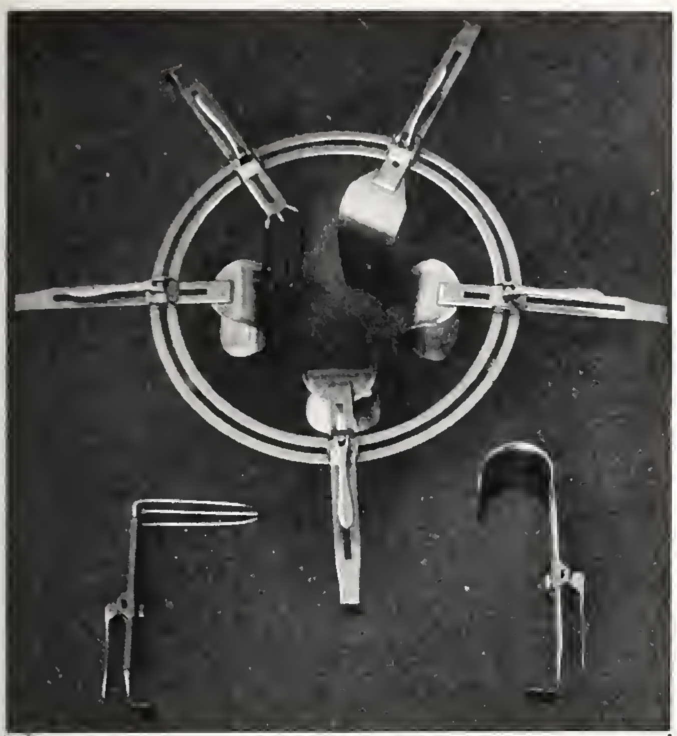

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"Only those clinical laboratories in which the space, equipment, finances, management, personnel and records are such as will insure honest, efficient and accurate work may expect to be listed as approved."

"The housing and equipment should be sufficient to permit all essential technical procedures to be properly carried out."

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"The director of an approved clinical laboratory should be a graduate of an acceptable college or university of recognized standing, indicating proper educational attainments. He shall have specialized in clinical pathology, bacteriology, pathology, chemistry or other allied subjects, for at least three years. He must be a man of good standing in his profession."

"The director shall be on full time, or have definite hours of attendance, devoting the major part of his time to the supervision of the laboratory work."

"The director may make diagnoses only when he is a licensed graduate of medicine, has specialized in clinical pathology for at least three years, is reasonably familiar with the manifestation of disease in the patient, and knows laboratory work sufficiently well to direct and supervise reports."

"The director may have assistants, responsible to him. All their reports, bacteriologic, hematologic, biochemical, serologic and pathologic should be made to the director."

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"Indexed records of all examinations should be kept. Every specimen submitted to the laboratory should have appended pertinent clinical data."

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"Publicity of an approved laboratory should be directed only to physicians either through bulletins or through recognized technical journals, and should be limited to statements of fact, as the name, address, telephone number, names and titles of the director, and other responsible personnel, fields of work covered, office hours, directions for sending specimens, etc., and should not contain misleading statements. Only the names of those rendering regular service to the laboratory should appear on letterheads or other form of publicity."

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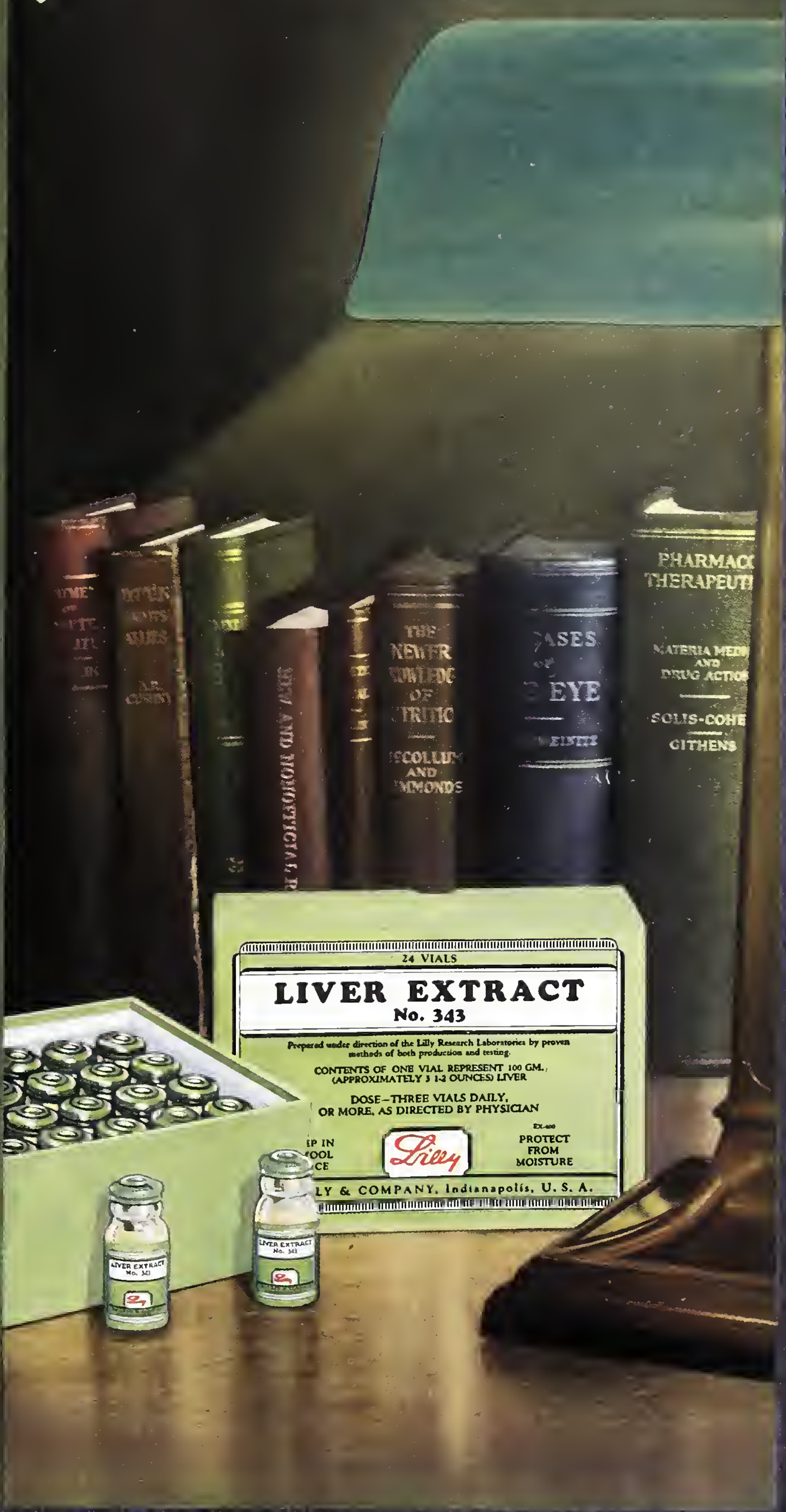
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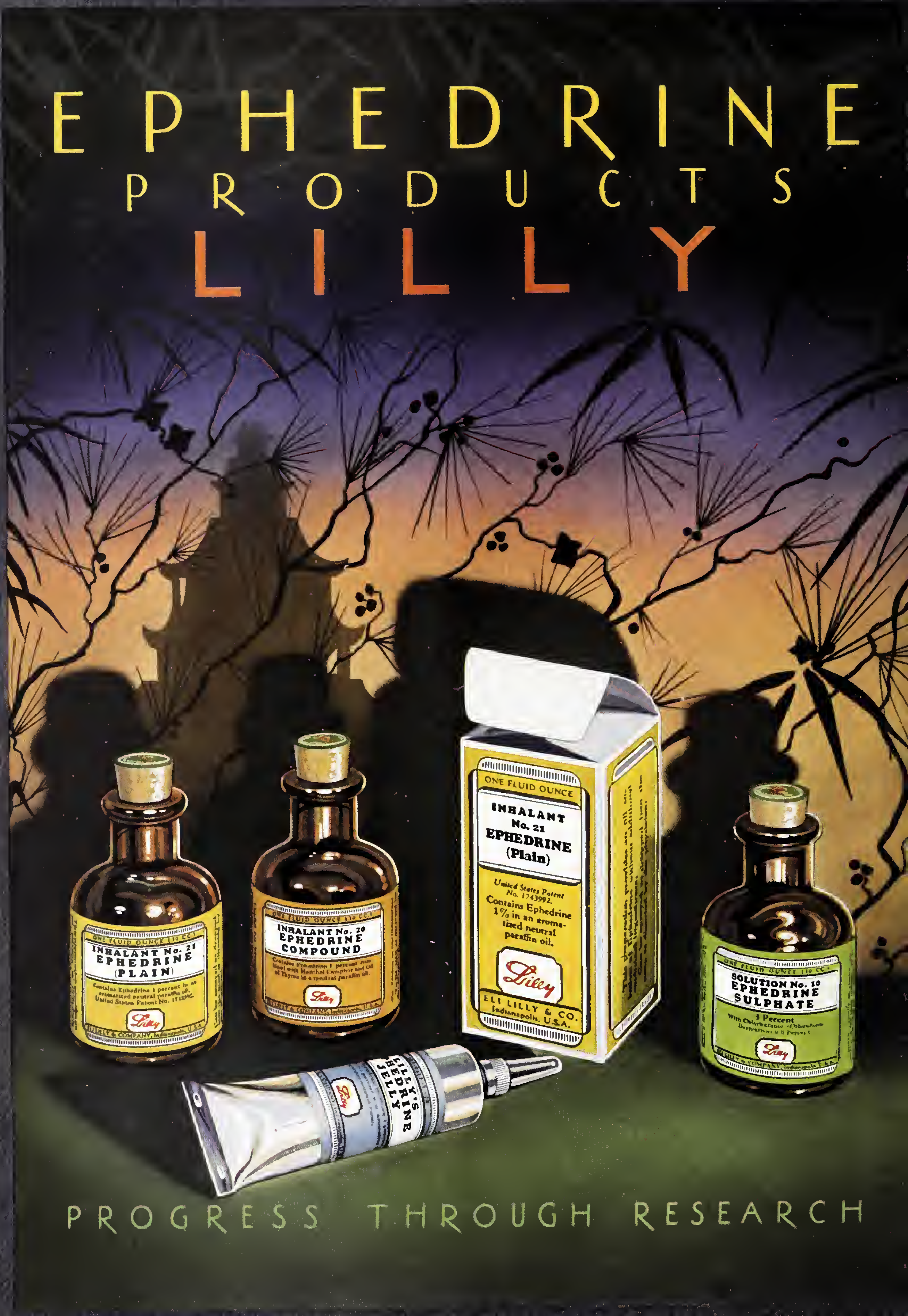
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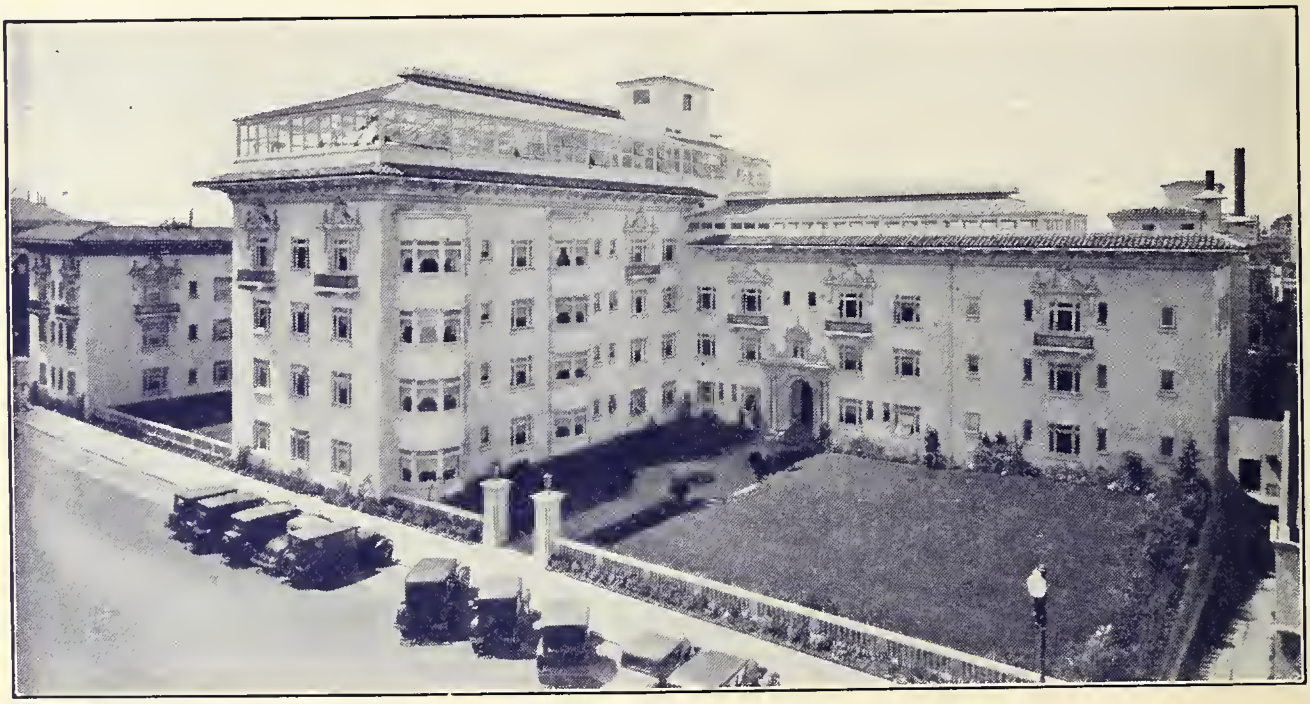

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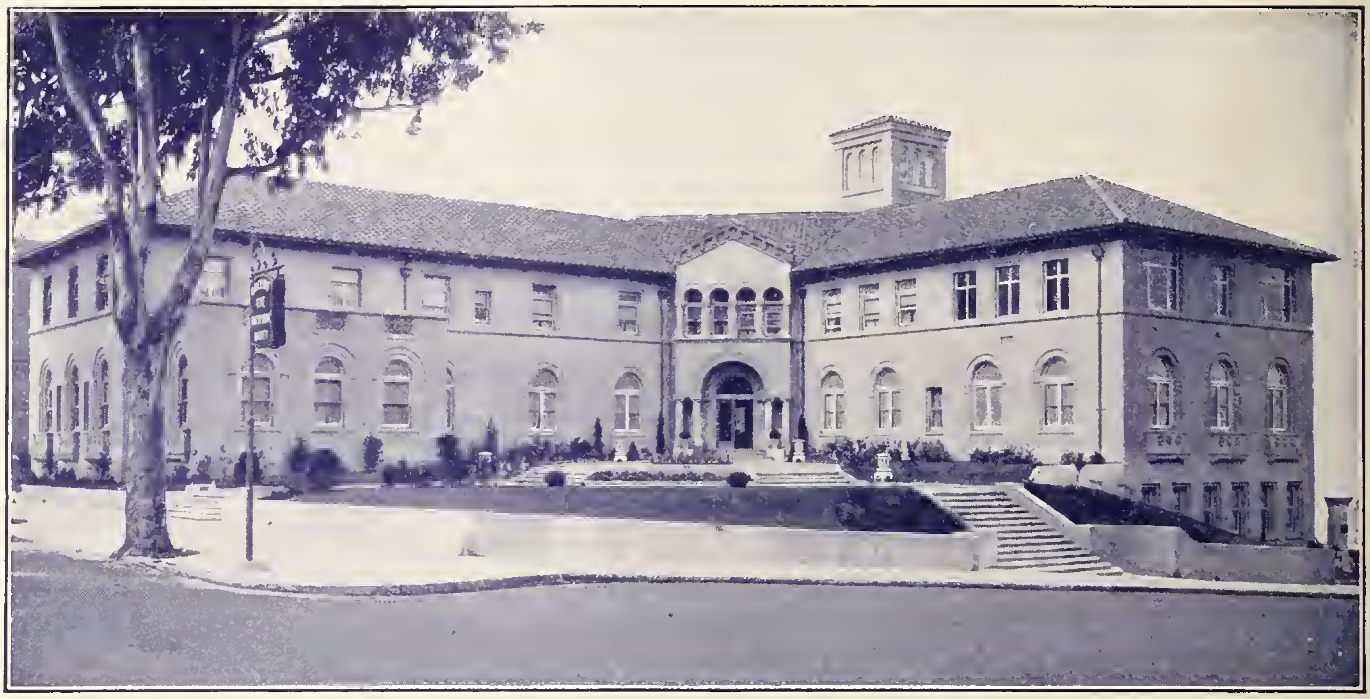

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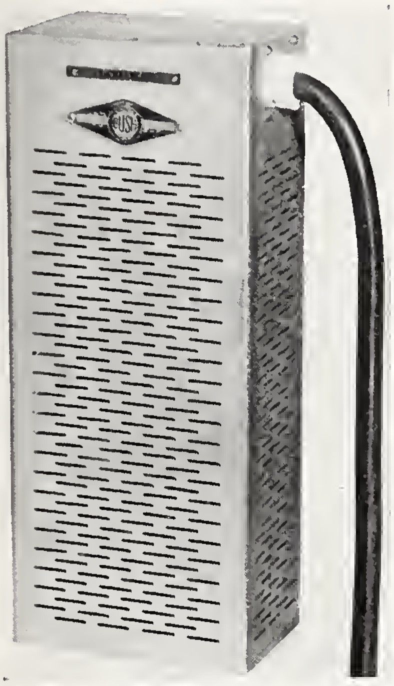

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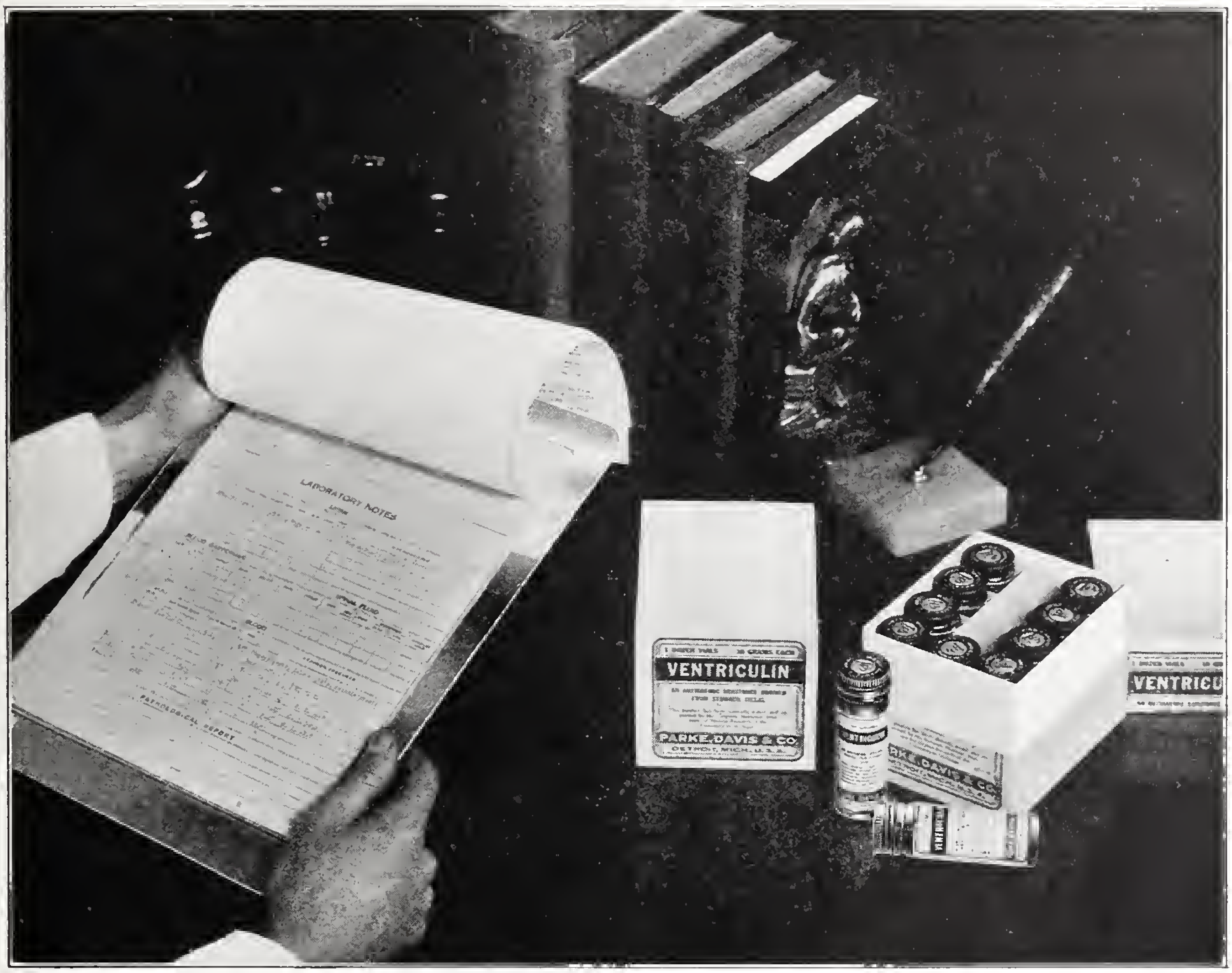

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Three Centuries of Birth Records.—The clergy of the Catholic Church in French Canada have been keeping careful registers of baptisms, marriages, and burials since colonization began there three centuries ago. No other country in the world can offer as long a continuous series of birth records, says a report of the study of Canada's birth statistics in the course of which this fact was discovered.—*United States Children's Bureau, Washington, D. C.*

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Health for Travelers. Hygiene and Health Preservation in the Tropics, Orient, and Abroad. By the Staff of the Pacific Institute of Tropical Medicine, within the George Williams Hooper Foundation for Medical Research of the University of California. Edited by Alfred C. Reed, M. D., San Francisco. Cloth. Pp. 239. Price, $3. San Francisco: J. W. Stacey, Inc., 1931.

How It Happened. By Adalbert G. Bettman, M. D., F. A. C. S. Cloth. Pp. 110. Price, $1 net. Philadelphia: F. A. Davis Company, 1931.

The American Journal of Cancer. A continuation of The Journal of Cancer Research. Vol. XV. January, 1931. No. 1. Edited by Francis Carter Wood. The Institute of Cancer Research of Columbia University. Paper. Pp. 561, illustrated.

A Manual of the Common Contagious Diseases. By Philip Moen Stimson, A. B., M. D., Associate in Pediatrics, Cornell University Medical College. Fabric. Pp. 351, illustrated with 40 engravings and 2 plates. Price, $3.75 net. Philadelphia: Lea & Febiger, 1931.

Calcium Metabolism and Calcium Therapy. By Abraham Cantarow, M. D., Assistant Demonstrator of Medicine in the Jefferson Medical College, Philadelphia, with a Foreword by Hobart Amory Hare, B. Sc., M. D., LL. D., Professor of Therapeutics, Materia Medica and Diagnosis in the Jefferson Medical College. Fabric. Pp. 215. Price, $2.50 net. Philadelphia: Lea & Febiger, 1931.

Traumatotherapy. The Treatment of the Injured. By John J. Moorhead, B. Sc., M. D., F. A. C. S., Professor of Surgery and Director Department of Traumatic Surgery, New York Post-Graduate Medical School and Hospital; Surgical Director Reconstruction Hospital Unit; Colonel Medical Officers' Reserve Corps, U. S. Army. Cloth. Pp. 574, with 625 illustrations. Price, $7. Philadelphia and London: W. B. Saunders Company, 1931.

Practical Radiation Therapy. By Ira I. Kaplan, B. S., M. D., Director Division of Cancer, Department of Hospitals, New York City; Attending Radiation Therapist, Bellevue Hospital; with a special chapter on Applied X-ray Physics. By Carl B. Braestrup, B. Sc., P. E., Radiation Physicist, Division of Cancer, Department of Hospitals, Physicist to Mt. Sinai Hospital, New York City. Cloth. Pp. 354 with 227 illustrations. Price, $6. Philadelphia and London: W. B. Saunders Company, 1931.

Modern Surgery. General and Operative. By J. Chalmers Da Costa, M. D., LL. D., F. A. C. S., Samuel D. Gross, Professor of Surgery Jefferson Medical College, Surgeon to Jefferson Medical College Hospital, Consulting Surgeon to the Philadelphia General Hospital, St. Joseph's Hospital and Misericordia Hospital, Philadelphia. Assisted by Benjamin Lipshutz, M. D., F. A. C. S., Surgeon to the Mt. Sinai Hospital; Associate in Neuroanatomy, Jefferson Medical College. Tenth Edition, Revised and Reset. Cloth. Pp. 1404, with 1050 illustrations, some in colors. Price, $10. Philadelphia and London: W. B. Saunders Company, 1931.

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The Clinical Interpretation of Blood Examinations. By Robert A. Kilduffe, A. B., A. M., M. D., F. A. S. C. P., Director Laboratories, Atlantic City Hospital; Consulting Serologist, Betty Bacharach Home for Crippled Children, Atlantic City, N. J. Cloth. Pp. 629, illustrated with 60 engravings. Price, $6.50 net. Philadelphia: Lea & Febiger, 1931.

Modern Methods of Treatment. By Logan Clendening, M. D., Professor of Clinical Medicine, Lecturer on Therapeutics, Medical Department of the University of Kansas; Attending Physician, Kansas City General Hospital. With Chapters on Special Subjects by H. C. Andersson, M. D.; J. B. Cowherd, M. D.; H. P. Kuhn, M. D.; Carl O. Rickter, M. D.; F. C. Neff, M. D.; E. H. Skinner, M. D., and E. R. DeWeese, M. D. Fourth Edition. Cloth. Pp. 819, illustrated. Price, $10. St. Louis: The C. V. Mosby Company, 1931.

Operative Obstetrics on the Mannikin. For Students and Practitioners. By Charles B. Reed, M. D., F. A. C. S., Associate Professor of Obstetrics, Northwestern University Medical School, Chicago; Chief Obstetrician, Wesley Memorial Hospital, Chicago. Cloth. Pp. 314, with two hundred and fifty-four illustrations. Price, $4. Philadelphia: P. Blakiston's Son & Co., Inc., 1931.

Cancer. Its Origin, Its Development and Its Self-Perpetuation. The Therapy of Operable and Inoperable Cancer in the Light of a Systemic Conception of Malignancy. A Research. By Willy Meyer, M. D., Consulting Surgeon to the Lenox Hill and Postgraduate Hospitals, New York Infirmary for Women and Children, etc.; Emeritus Professor of Surgery, N. Y. Postgraduate Medical School. Cloth. Pp. 427. Price, $7.50 net. New York: Paul B. Hoeber, Inc., 1931.

Medical Associates of My Early Days in Los Angeles. By George L. Cole, M. D., Los Angeles. Reprint from 1930 Los Angeles County Medical Association Bulletins. Paper. Pp. 129. Los Angeles: Phillips Printing Co., 1931.

Chinin der Allgemeinpraxis. Unter Berücksichtigung Pharmagologischer Befunde. Von Dr. Med. Fritz Johannessohn, Manheim. Mit Drei Bildnessen. Paper. Pp. 232. Amsterdam-W: Bureau Tot Bevordering Van Het Kinine-Gebruik, 1930.

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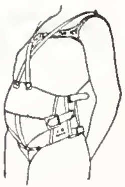
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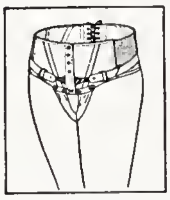
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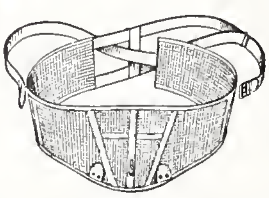
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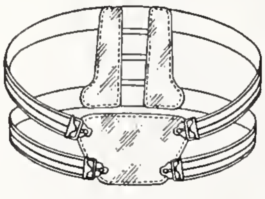
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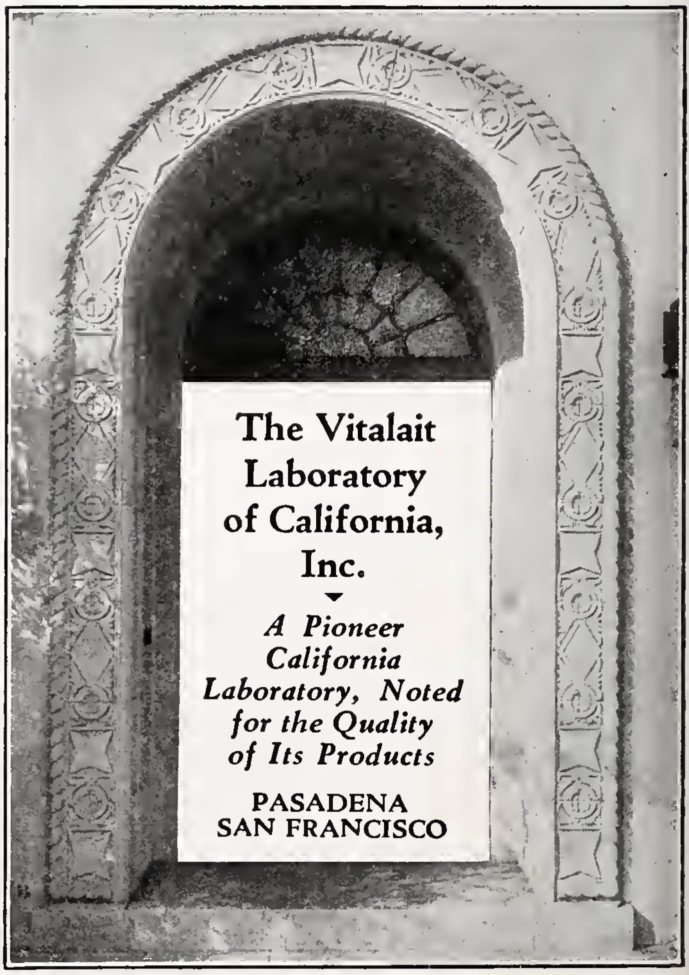
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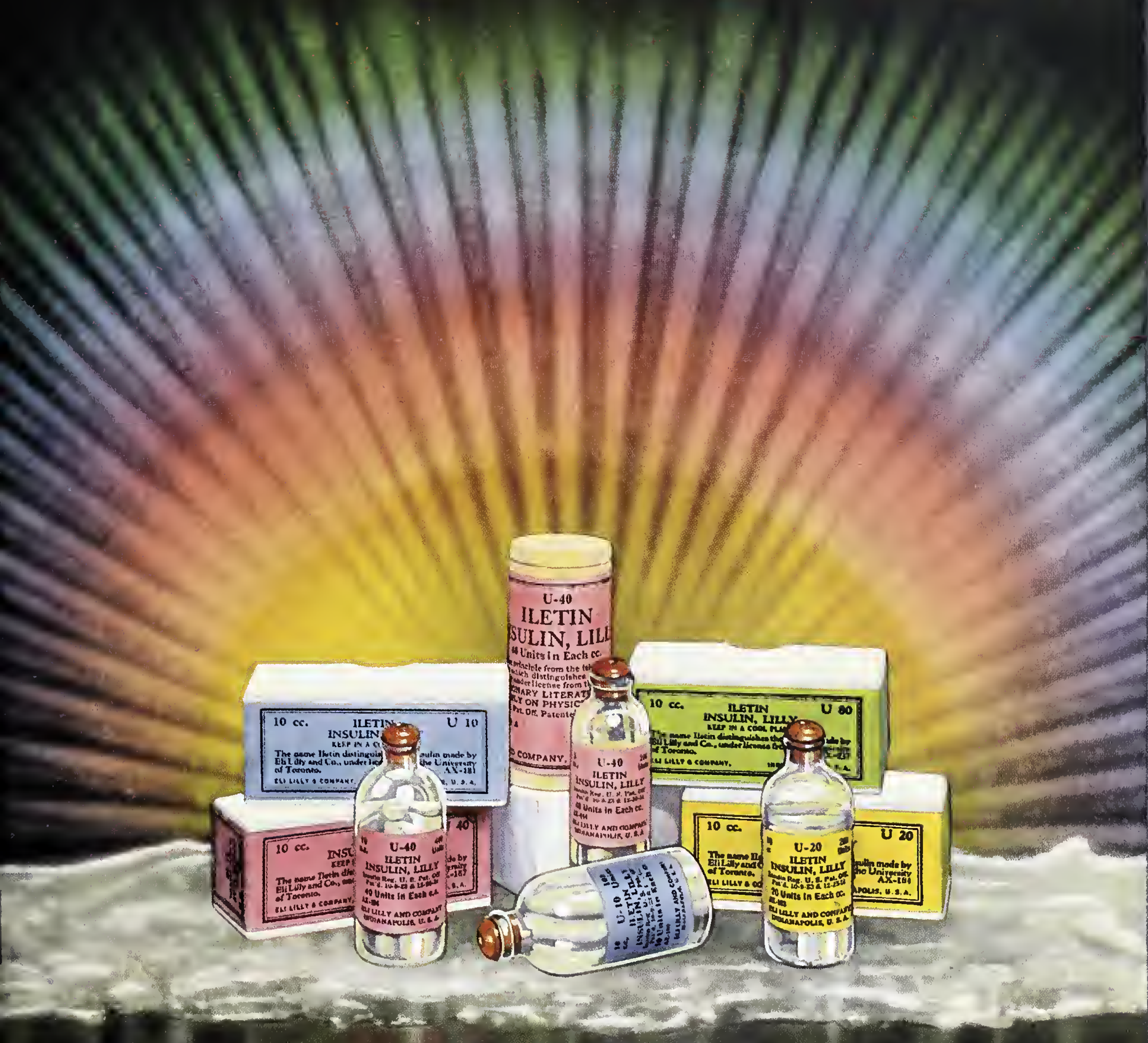
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BOOK REVIEWS

Nursing Mental and Nervous Diseases From the Viewpoints of Biology, Psychology and Neurology. A textbook for use in schools for the training of nurses. (Lippincott nursing manuals.) By Albert Coulson Buckley. Second edition. Pp. 312. Illustrated. Philadelphia and London: J. B. Lippincott Company, 1930. Price, $3.

As mentioned in the preface of the first edition, this book follows the general plan of the author's Basis of Psychiatry, published in 1920. There is an excellent biological introduction of sixty-two pages, following which are chapters of elementary psychology and etiology.

Part Three considers the classification of psychology, various therapeutic measures, and especially the nursing.

Part Four, of about fifty pages, deals with organic nervous diseases. There is a short bibliography and glossary with a good index.

It is an excellent book for nurses that could be read with profit by many physicians. E. W. T.

A Textbook of Medicine. By American Authors. Edited by Russell L. Cecil. Associate Editor for Diseases of the Nervous System Foster Kennedy. Second edition. Pp. 1592. Philadelphia and London: W. B. Saunders Company, 1930. $9.

In discussing the first edition of Cecil's Textbook of Medicine, the reviewer pointed out that such a work was almost inevitable in the present state of development of medicine. Few men indeed nowadays could write with authority on the entire subject. The first edition was criticized really in one respect only, namely, that there was a lack of a certain sense of balance between some of the articles, as regards length and quality. This criticism might still be made of the second edition, but the point should not be emphasized since practically every article is satisfactory and represents a really authoritative summary. Certainly the finished product has turned out to be a most satisfactory text for medical students, and one feels that Dr. Cecil's editorship has almost, if not quite, accomplished the impossible. A. L. B.

Mental Aspects of Stammering. By C. S. Bluemel. Pp. 152. Illustrated. Baltimore, Williams & Wilkins Company, 1930. Price, $2.50.

This is a practical handbook, especially designed for the instruction of teachers who have stammering children in their care, the author recognizing that they will be far more apt to have to do with these children than will the physicians.

The mental nature of stammering is repeatedly emphasized and the necessity of keeping that in view in treating the patient. E. W. T.

Handbook of Anatomy, Being a Complete Compend of Anatomy. Seventh edition. Revised by George W. Miller. Philadelphia: F. A. Davis Company, 1930.

The first edition of this book appeared in 1889. This edition, the seventh, is a complete, well written, concise handbook. It is excellent for the purpose of ready reference or brief review of standard anatomical facts, but contains insufficient detail for use as a textbook. It is well but insufficiently illustrated. The diagrammatic sketches of the nervous system are good. The Basle nomenclature is used throughout. It is well indexed. J. W. C.

TRUTH ABOUT MEDICINES

(Abstracts from reports of Council on Pharmacy and Chemistry of the American Medical Association)

In addition to the articles enumerated the following have been accepted:

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Fairchild Bros. & Foster.—Liver Extract (Fairchild).

Eli Lilly & Co.—Tablets Amytal, three-fourths grain.

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Continued on Page 20)

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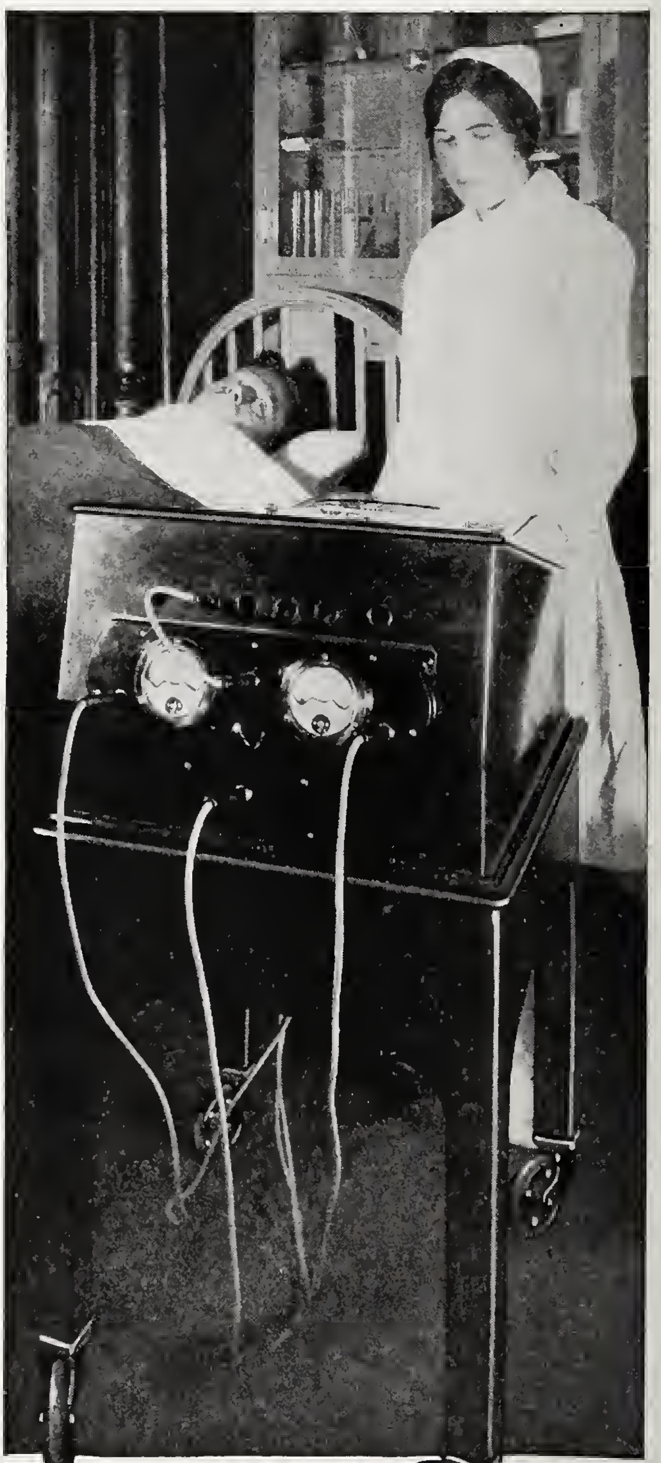

Showing diathermy used for producing therapeutic fever in the treatment of dementia paralytica. Photo courtesy Northwestern University Medical School, Neurological Clinic, Chicago.

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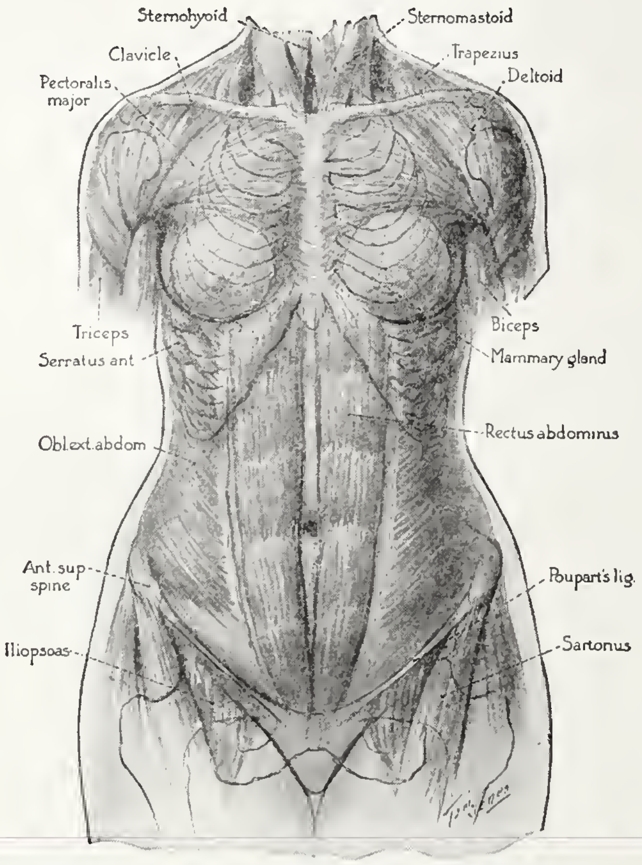

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(Continued from Page 17)

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The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Nonofficial Remedies:

Diphtheria Toxoid.—This product (*Journal of the American Medical Association,* November 15, 1930, p. 1505) is also marketed in packages of ten immunization treatments containing two 1 cc. vials of diluted diphtheria toxoid for the reaction test and twenty 1 cc. vials of diphtheria toxoid for treatment; in packages of fifteen immunization treatments containing one 1 cc. vial of diluted diphtheria toxoid for the reaction test and one 30 cc. vial of diphtheria toxoid for treatment. Lederle Laboratories, Inc., Pearl River, New York.

Schick Test.—A diphtheria immunity test (New and Nonofficial Remedies, 1930, p. 380) marketed in packages of one capillary tube containing undiluted diphtheria toxin standardized, sufficient for ten tests, accompanied by sterile diluent; in packages of one capillary tube containing undiluted diphtheria toxin standardized, sufficient for fifty tests, accompanied by sterile diluent; in packages of two capillary tubes containing undiluted diphtheria toxin standardized, sufficient for one hundred tests, accompanied by sterile diluent. As a means of control the Schick test control is supplied. National Drug Co., Philadelphia.

Ephedrin Hydrochlorid (Gane and Ingram).—A brand of ephedrin hydrochlorid—N. N. R. (New and

Nonofficial Remedies, 1930, p. 169). Gane and Ingram, Inc., New York.

Ephedrin Sulphate (Gane and Ingram).—A brand of ephedrin sulphate—N. N. R. (New and Nonofficial Remedies, 1930, p. 170). Gane and Ingram, Inc., New York.

Tuberculin Old (Human).—Tuberculin (Koch) (New and Nonofficial Remedies, 1930, p. 358) marketed in single 1 cc. vial packages; also in packages of one 4 cc. vial. National Drug Co., Philadelphia.—*Journal of the American Medical Association,* January 3, 1931, p. 39.

Pollen Extracts (Cutter).—The following pollen extracts (Cutter) (New and Nonofficial Remedies, 1930, p. 31) have been accepted: Oak Pollen Extract (Cutter); Western Ragweed Pollen Extract (Cutter); Western Water Hemp Pollen Extract (Cutter). Cutter Laboratory, Berkeley, Calif.

Winthrop Viosterol in Oil 250 D.—A brand of viosterol in oil 250 D—N. N. R. (New and Nonofficial Remedies, 1930, p. 410; *Journal of the American Medical Association,* October 4, 1930, p. 1021). Winthrop Chemical Co., Inc., New York.—*Journal of the American Medical Association,* January 24, 1931, p. 271.

Tetanus Gas Gangrene Antitoxin (Lederle) Refined and Concentrated.—An anaërobic antitoxin (New and Nonofficial Remedies, 1930, p. 343) prepared by immunizing horses with gradually increasing doses of the toxins of *B. tetani, B. perfringens,* and Vibrion septique. The toxins are individually prepared. The product is marketed in packages of one syringe containing one prophylactic dose, stated to represent tetanus antitoxin 1500 units, perfringens antitoxin 1000 units, and Vibrion septique antitoxin 10 units. Lederle Laboratories, Inc., Pearl River, New York.

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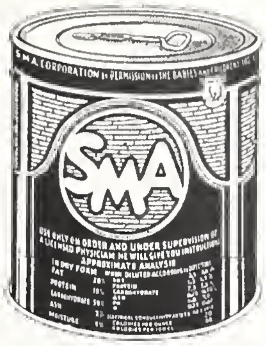

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TRUTH ABOUT MEDICINES

(Continued from Preceding Page)

Gas Gangrene Antitoxin (Polyvalent) Refined and Concentrated, Without Tetanus Antitoxin.—An anaërobic antitoxin (New and Nonofficial Remedies, 1930, p. 343) prepared by immunizing horses with subcutaneous injections of gradually increasing doses of the toxins of *B. perfringens,* Vibrion septique, *B. oedematiens, B. sordelli,* and *B. histolyticus.* The toxins are individually prepared. The product is marketed in vials containing one minimum therapeutic dose, stated to represent perfringens antitoxin 10,000 units, Vibrion septique antitoxin 100 units, *B. oedematiens* antitoxin 200 units, *B. sordelli* antitoxin 200 units, and *B. histolyticus* antitoxin 25 units. Lederle Laboratories, Inc., Pearl River, New York.

Tablets Amytal, Three-Fourths Grain.—Each tablet contains amytal (*Journal of the American Medical Association,* October 18, 1930, p. 1178), three-fourths grain. Eli Lilly & Co., Indianapolis.

Ampoules Gold Sodium Thiosulphate (Abbott), 0.01 Gram.—Each ampoule contains gold sodium thiosulphate (Abbott) (*Journal of the American Medical Association,* December 20, 1930, p. 1913), 0.01 gram. Abbott Laboratories, North Chicago, Illinois.

Sulpharsphenamin (Metz), 0.75 Gram Ampoules.—Each ampoule contains sulpharsphenamin (Metz) (New and Nonofficial Remedies, 1930, p. 72), 0.75 gram. H. A. Metz Laboratories, Inc., New York.

Sulpharsphenamin (Metz), 0.9 Gram Ampoules.—Each ampoule contains sulpharsphenamin (Metz) (New and Nonofficial Remedies, 1930, p. 72), 0.9 gram. H. A. Metz Laboratories, Inc., New York.

Sulpharsphenamin (Metz), 3.0 Gram Ampoules.—Each ampoule contains sulpharsphenamin (Metz) (New and Nonofficial Remedies, 1930, p. 72), 3.0 gram. H. A. Metz Laboratories, Inc., New York.—*Journal of the American Medical Association,* January 31, 1931, p. 357.

FOODS

The following products have been accepted by the Committee on Foods of the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in Accepted Foods:

H-O Hornby's Oats (Regular H-O Oats) (Hecker H-O Co., Inc., Buffalo, New York).—Oat flakes made from lightly toasted, steam-cooked, whole oat groats. A breakfast cereal. The product contains: moisture, 8 per cent; mineral matter, 2 per cent; fat, 7.3 per cent; protein, 15.2 per cent; crude fiber, 1.3 per cent; carbohydrates, 66.2 per cent. The product contains vitamin B (complex) and E such as are natural to oats.—*Journal of the American Medical Association,* January 10, 1931, p. 115.

ACCEPTED DEVICES FOR PHYSICAL THERAPY

The following has been accepted by the Council on Physical Therapy of the American Medical Association for inclusion in its list of accepted devices for physical therapy:

National Vaporizer.—This apparatus is designed for the purpose of vaporizing oil or aqueous solutions and atomizing very fine impalpable powders. The apparatus contains no metal valves or parts that may oxidize or stick together. It is so constructed that it enables almost the entire solution to be vaporized. The apparatus is relatively fragile. National Drug Co., Philadelphia.—*Journal of the American Medical Association,* January 24, 1931, p. 271.

PROPAGANDA FOR REFORM

Avesan (H) Not Acceptable for New and Nonofficial Remedies.—The Council on Pharmacy and Chemistry reports that Avesan (H), according to the Avesan Chemical Co., Los Angeles, is "Indicated in

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tuberculosis, asthma, bronchitis, and bronchiectasis" and stated to be "Effective in minor disturbances of the respiratory organs." The product is supplied in ampoules and is administered subcutaneously. It is stated to be "a purely chemotherapeutical product" which is "composed of formic acid, sodium nucleinate, camphor, allyl sulphid, and chlorophyl, with traces of salicin and sulphuric ether." After considering the available evidence and information, the Council declared Avesan (H) inadmissible to New and Nonofficial Remedies because no acceptable evidence for the efficacy and rationality is presented, because unwarranted claims are made, and because no evidence was supplied to show that the composition and uniformity of the preparation are adequately controlled.—*Journal of the American Medical Association,* January 3, 1931, p. 39.

Therapeutic Potentialities of "Mustard Gas."—From time to time hopes are still entertained for some possible usefulness in medicine of "mustard gas," chemically known as dichlorethylsulphid. British and German investigators report that the dermal application of dichlorethylsulphid will prevent the development of the experimental cancer of tars. Forster of the Pharmacologic Institute at Würzberg has reported that dichlorethylsulphid in high dilution was the most efficient hair growth promoter of a considerable number of agents tried. Quantitative estimations of hair growth on shaved cats, treated locally with concentrations of 0.01 per cent of the compound in 50 per cent alcohol containing 2 per cent of glycerin, showed a much greater production of hair than with other substances used. Impure yellow petrolatum, but not the pure white product, was next in efficiency to dichlorethylsulphid, this being attributed to impurities acting as irritants. Forster found that when agents are used that cause excoriation a diminution or inhibition of hair growth occurs, and he

(Continued on Page 25)

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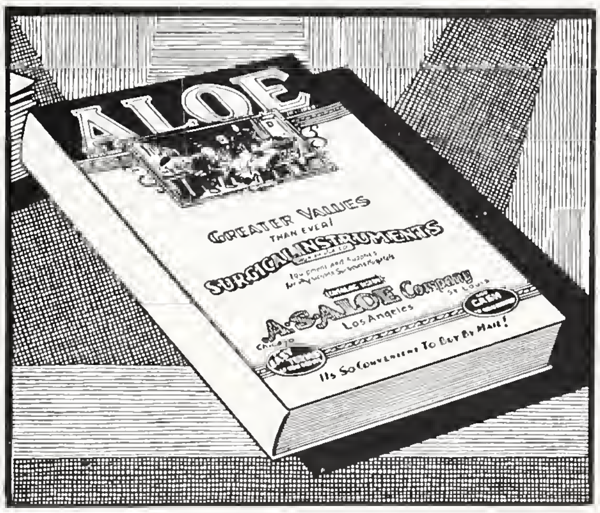

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TRUTH ABOUT MEDICINES

(Continued from Page 23)

suggests that this may also occur after injudicious application of dichlorethylsulphid. Lest the results of this research on hair tonics in felines arouse premature hopes in the bald and near bald, it should be mentioned that not all shaved and bald skins responded equally well. Nor are all "war gases" necessarily effective, for the German cats, in Forster's hand, frankly declined to respond to the much vaunted "war gas" of the Allies.—*Journal of the American Medical Association,* January 3, 1931, p. 41.

First Aid by the Manufacturer.—Doctors received during the Christmas season a copy of the pamphlet entitled "First Aid and Emergencies," prepared by McKesson and Robbins for circulation to the public. It is not surprising to find from consultation of this pamphlet that first aid covers a wide variety of conditions and that apparently McKesson and Robbins have developed something for each of these conditions. Thus, anemia is listed among the conditions demanding first aid and the patient is given full instructions for its control. In addition, biliousness and liver trouble, Bright's disease, diabetes, eczema, gout, rheumatism, and tuberculosis are among the conditions demanding first aid. True, the book mentions in various places the desirability of calling a physician, but the patient is encouraged to take a chance. This pamphlet represents one of the worst phases of proprietary medicine business.—*Journal of the American Medical Association,* January 3, 1931, p. 44.

More Misbranded Nostrums.—The following products have been the subject of prosecution by the Food and Drug Administration of the United States Department of Agriculture which enforces the Federal Food and Drugs Act: Antikamnia and Codein Tablets (Antikamnia Remedy Co.), each containing 2.88 grains of acetanilid with caffein, sodium bicarbo-

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(Continued from Preceding Page)

nate, and a small amount of codein. Ak-No-Mor (A. G. Luebert), capsules containing three grains acetphenetidin, some acetylsalicylic acid, and caffein. Sargon (Sargon Laboratories), an alcohol-water solution of sugar, glycerin, extract of ox gall, a bitter drug, small amount of an iron compound, sodium citrate, and caffein. Gauvin's Headache Wafers (J. A. E. Gauvin), containing acetanilid and sodium bicarbonate. Hygem (Vita-Bac Corporation, Bloomfield Laboratories), consisting essentially of an emulsion of mineral oil, a small amount of casein-like material and water, flavored with peppermint oil and containing no viable acidophilus bacilli. Now (R. D. Coulson), consisting essentially of small amount of menthol, camphor, oil of eucalyptus, licorice, alcohol, glycerin, and water. Acquin (Clausen-Zoller Co.), containing acetphenetidin, acetylsalicylic acid, and

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starch.—*Journal of the American Medical Association,* January 3, 1931, p. 57.

The "Smeaton Way" Eye Drops.—A relatively insignificant piece of medical swindling has recently been put a stop to by the postal authorities, through the issuance of a fraud order against Smeaton Way, Vincennes, Indiana. "Smeaton Way" was the name under which William D. H. Smeaton was selling through the mails a preparation called "Itsgone-Eyedrops" which he claimed was a cure for all known eye diseases, and even blindness. The "eye-drops" were made out of honey, egg yolk, melted butter, and water—*Journal of the American Medical Association,* January 3, 1931, p. 57.

Treatment of Cough After Bronchitis.—Children who cough should not be permitted to attend school. If the child has fever, it should be kept in bed. Warmth, as uniform as possible, is the prime requisite in the treatment of colds and acute coughs. The chief of all expectorants is water: without it most medicinal expectorants fail and, with an abundance of it, they may not be required. Nevertheless, they probably contribute, when wisely used, to a speedier evolution of the various stages of bronchitis and to a more rapid recovery. The salines, chief among them ammonium chlorid and sodium citrate, head the list of agents that may reasonably be expected to be of use in "loosening up" a cough, provided they are given freely, frequently, and with plenty of fluid. Iodid, the most powerful of the saline expectorants, should not be employed until the acute stage is well over. When the cough is "loose," aromatics may be of value, such as terpin hydrate and creosote. A cough that hangs on is not so much an indication for medicine as a challenge to determine why it does. *Journal of the American Medical Association,* January 3, 1931, p. 61.

(Continued on Page 30)

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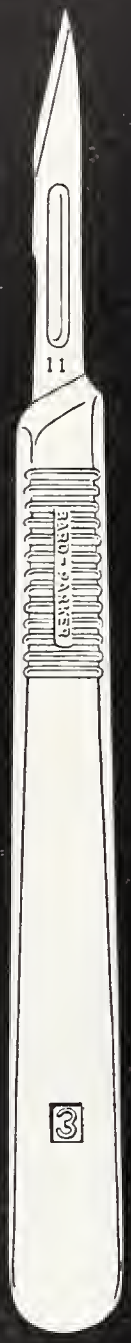

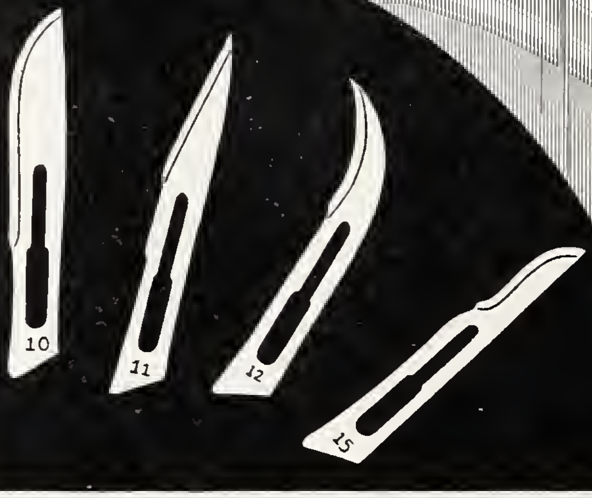

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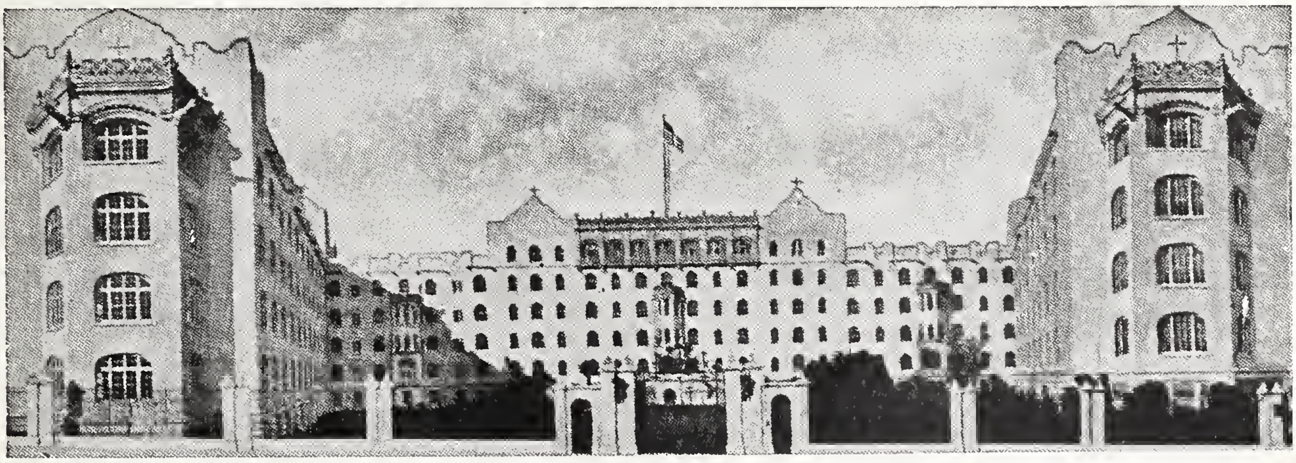

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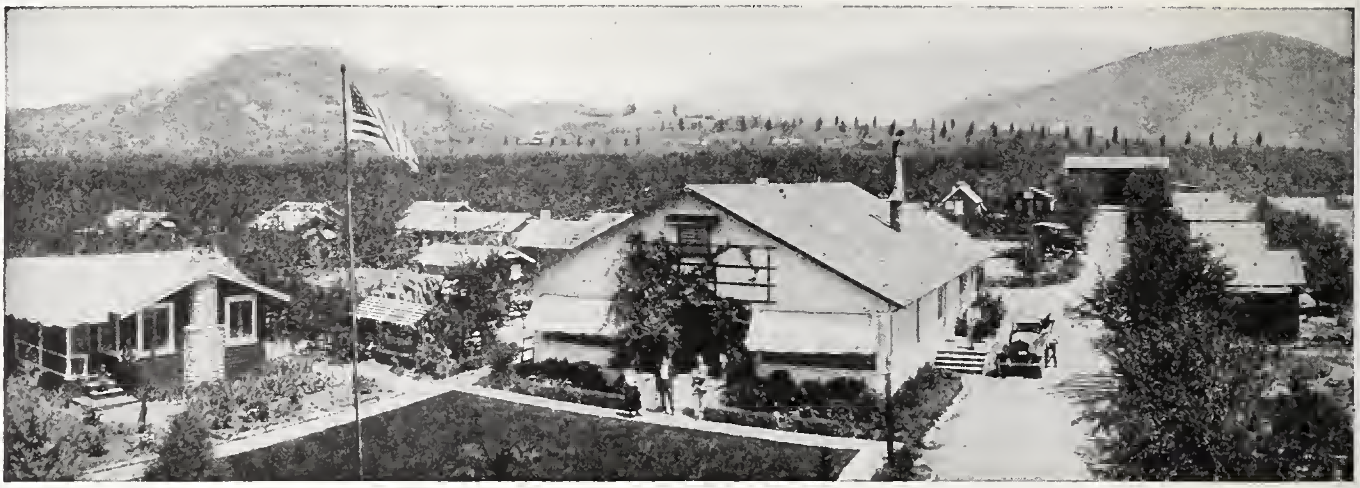

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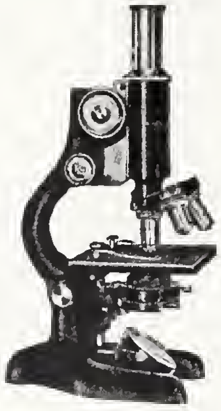

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TRUTH ABOUT MEDICINES

(Continued from Page 27)

Mylin Not Acceptable for New and Nonofficial Remedies.—The Council on Pharmacy and Chemistry reports that "Mylin" is the uninforming name under which the Mifflin Chemical Corporation markets capsules, each stated to contain: amidopyrin, three and one-half grains; caffein alkaloid, one grain; oleoresin ginger, one-fourth grain; cornstarch, one-fourth grain. The preparation is offered to the laity with the assurance that it is quite safe to take for the relief of pain which may be the warning signal for a serious condition. The Council found Mylin unacceptable for New and Nonofficial Remedies because it is an unscientific mixture of drugs marketed under an uninforming name and with unwarranted claims which will lead to its ill advised use by the public.—*Journal of the American Medical Association,* January 10, 1931, p. 115.

Kotex.—Because of inquiries received in regard to the nature of the deodorant present in the widely advertised sanitary napkin, Kotex, the American Medical Association Chemical Laboratory examined the product. A specimen was labeled "Genuine Kotex Deodorized." An enclosed circular contained the statement: "Kotex is odor proof. A mild, pure, safe antiseptic removes any danger of offense during the use of Kotex." The Laboratory found the Kotex pads to contain an amount of boric acid which is too small to be considered of value as a deodorant.—*Journal of the American Medical Association,* January 17, 1931, p. 193.

Renton's Hydrocin Tablets. — Under the name "Renton's Rheumatic Tablets" the Renton Company of Pasadena, California, put out an alleged rheumatism cure a year or so ago, under the claim: "What insulin is doing for diabetes, Renton's Rheumatic Tablets are doing for arthritis, neuritis, and rheuma-

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tism." After the preparation had been on the market for some time, the officials at Washington in charge of the enforcement of the Food and Drugs Act are said to have made the Renton Company eliminate the word "rheumatic" from their labels and the nostrum "Renton's Hydrocin Tablets." The American Medical Association Chemical Laboratory reports that each Renton's Rheumatic Tablet was found to contain essentially 0.32 gram (approximately five grains) of cinchophen, with a relatively small amount of an unidentified amin. The Laboratory reports that qualitative tests indicated Renton's Hydrocin Tablets to contain the same ingredients as found in Renton's Rheumatic Tablets, and that the amino compound present was identified as a tetra-ethyl ammonium compound. Although the tablets were stated to be enteric coated, the Laboratory found that the coating flaked off when they were immersed in 0.2 per cent hydrochloric acid. Summed up, it appears that people who pay $1.50 for fifty Renton's Hydrocin Tablets are getting what is essentially fifty five-grain cinchophen tablets, which could be purchased at almost any drug store at half the price, and, what is of more importance, with the possibility of the dangers and limitations of the drug known. With the increasing number of cases of acute yellow atrophy of the liver following the continued use of cinchophen it seems little less than criminal that irresponsible "patent medicine" exploiters should continue to put this potent drug into their secret mixtures, with no warning as to the possible dangers in its continued use. Nor are the large and supposedly respectable pharmaceutical houses, which put up such formulas for "patent medicine" manufacturers, free from moral responsibility.—*Journal of the American Medical Association,* January 17, 1931, p. 209.

Misleading Methyl Chlorid Publicity.—The Committee on Poisonous Gases of the American Medical

(Continued on Page 34)

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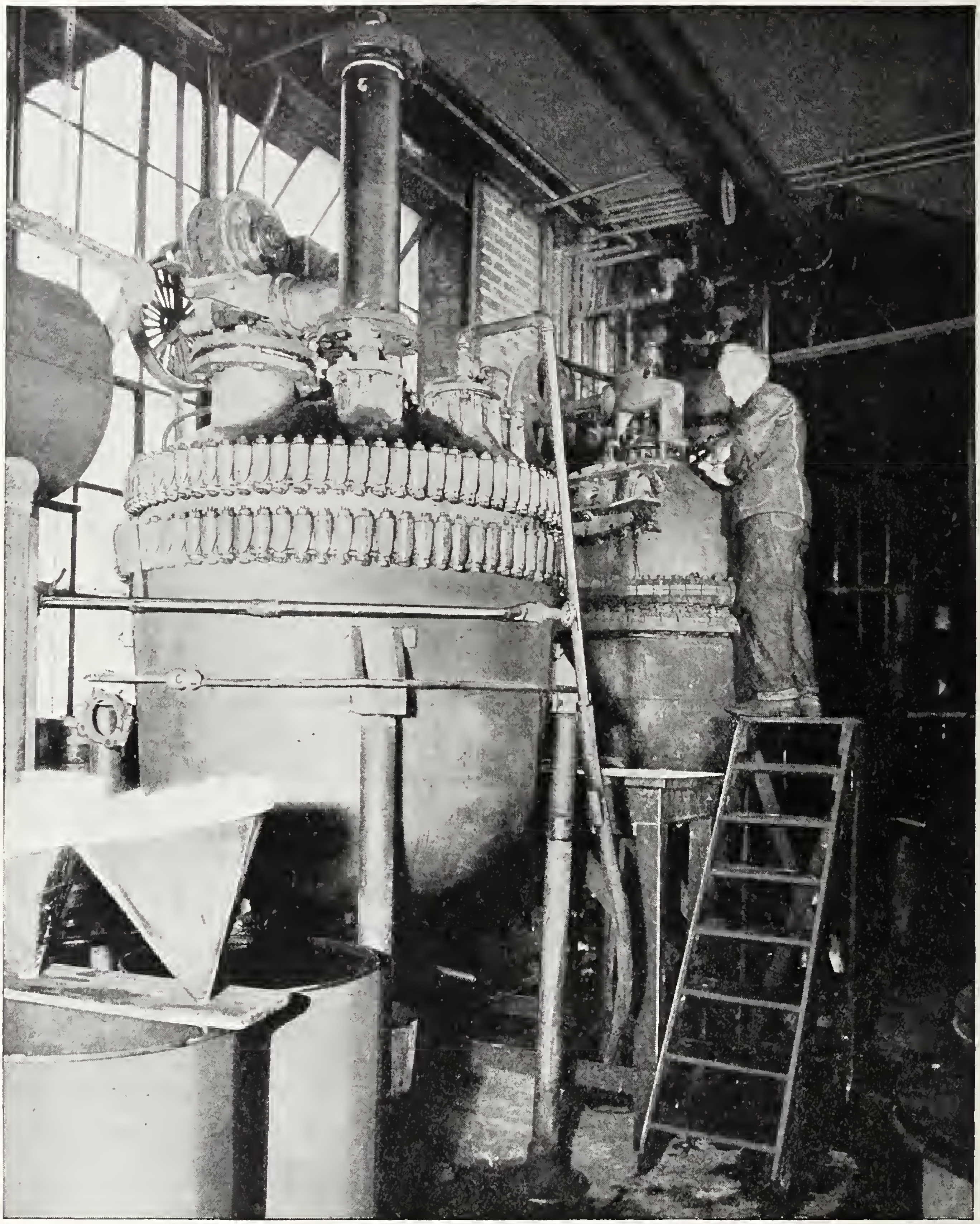

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VOLUME XXXIV | MARCH, 1931 | No. 3

THE ETIOLOGY OF ARTERIOSCLEROSIS*

By RICHARD D. EVANS, M. D.
Santa Barbara

DISCUSSION *by Newton Evans, M. D., South Pasadena; Emil Bogen, M. D., Olive View.*

ARTERIOSCLEROSIS has been known since antiquity, though accurate knowledge of this condition has been gained only within the last seventy-five years. To Virchow we are indebted for the first careful histologic descriptions. From his time to the present, innumerable investigations have been made and, while we have detailed information concerning the anatomic changes, our knowledge of the causative factors is, in reality, meager and controversial. The importance of the condition is recognized only by consideration of its far-reaching consequences. It may be the direct cause of death by producing cerebral hemorrhage, cerebral thrombosis, or cardiac infarction. It is the underlying factor, or is associated with various other disease processes such as hypertension or nephritis.

An idea of its incidence may be gained from the registrar general's review of England and Wales for the year 1927, in which there are listed 484,000 deaths from all causes. There are 97,000 diseases of the circulatory system, of which 23,700 are directly assignable to arterial disease. These figures do not include 25,000 deaths from apoplexy, which we may assume were associated with arteriosclerosis. Thus 120,000 deaths, or 25 per cent, are more or less directly concerned with arterial disturbance. In the Berlin Krankenhaus Charité, from the years 1905 to 1912 inclusive, there were 9149 deaths from all causes, and 402 from arteriosclerosis, an incidence of 10.2 per cent of all patients over forty years of age, and 4.3 per cent of the total number. These figures are derived from autopsies and include all cases where arteriosclerosis was the direct cause of death and the basic condition. A percentage of 11.2 was found as the cause of death from autopsy material at the Peter-Paul Krankenhaus and the Marienkrankenhaus[1] in a total of 2258 persons over twenty years of age (1923-1925). Of the latter series, the incidence, according to decades, increased in frequency to 52 per cent in the seventh. Most instances were generalized and the brain, kidney, and heart were involved in descending order of frequency.

The subject has been greatly confused by the lack of agreement among investigators as to what should be included under the term "arteriosclerosis." There is the further difficulty of the application of different labels to the same conditions. We have chosen to differentiate large and small vessel sclerosis, since differences in histologic structure determine varying reactions to injury. The larger arteries are of the elastic type and are subject to changes known as senile ectasia and atherosclerosis. Small vessel alterations include hyalinization, arteriocapillary fibrosis, medial hypertrophy, and endarteritis obliterans. Arterial changes of an inflammatory nature, due directly to infectious diseases as syphilis and tuberculosis, lie outside the scope of this paper and are not considered.

PATHOLOGIC CHANGES

Senile ectasia is considered by Aschoff[2] as a normal accompaniment of old age. The aorta is primarily affected because of its large content of elastic tissue. With increasing age there is a loss of elasticity wherever this tissue is found in the body on account of a peculiar change undergone by elastin. In consequence the aorta becomes overstretched, tortuous, and dilated. Opposing this process, connective tissue increases in the intima, adding to its strength and elastic resistance. Such a vessel is strong and rigid but has lost its contractility, and in pure form is known as senile sclerosis.

Atherosclerosis is a term first used by Marchand to indicate a special type of arterial degenerative change. Aschoff considers that this is the designation for the final picture of a process that begins early in life as an atherosis or a deposition of fat in the intima. World War autopsy material has demonstrated that fatty changes occur in from 35 per cent of individuals at twenty years of age to 100 per cent over forty. It has been observed commonly in infancy and puberty, and Saltykow[3] reports the finding of lipoid flecking in the aortas of 95 per cent of infants older than three months, and in 100 per cent of children beyond eight years of age. The process is first evident as fine yellow streaks along the lines of tension of the aorta between the origins of the intercostal arteries. This occurs as a deposition of cholesterin esters in the cement substance of the elastica stria terminalis, lying between the inner elastic connective tissue layer and the outer elastic muscular layer of the intima. At first there is no change of the intima, though later by extension, fat droplets accumulate in the intimal cells themselves and a raised patch is formed. Regression of this change is possible in infancy and puberty.

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* From the Pathological Laboratories of the Santa Barbara Cottage Hospital.

* Read before the Pathology and Bacteriology Section of the California Medical Association at the fifty-ninth annual session at Del Monte, April 28 to May 1, 1930.

In later years an entirely different picture is presented. The same process occurs, but this time in an aorta almost devoid of elastic tissue and thickened with connective tissue. Grossly there may be gray or yellow elevated plaques, incrustations of lime, or depressed ulcers from loss of the intimal covering. Microscopically the process begins, as in youth, with fatty infiltration, but there is concomitant or preceding hyalin degeneration of the increased connective tissue which overlies the fatty regions. Through a reactive process the connective tissue may further increase and further undergo hyalin change. With increasing accumulation of fat, the overlying tissue breaks down and atheromatous ulcers are formed. Tissue asphyxia and necrosis result from the presence of large amounts of cholesterin which subsequently splits off fatty acids with the formation of calcium soaps.

Mönckeberg has distinguished a special form of sclerosis of the muscular type, chiefly in the lower extremities, and characterized by tracheal-cartilage-like rings of calcification of the media. The calcium deposits follow necrosis and fatty change of the muscle cells. These regions may be surrounded by granulation tissue and the media may be, but usually is not, thickened. Intimal change occasionally follows. This condition is an expression of arteriosclerosis in its wider sense, though Mönckeberg considered it a separate process.

In the small vessels the changes differ somewhat from those described for the larger arteries. Hyalinization is characterized by thickening and diffuse swelling of a homogeneous highly refractile mass in the intima and media. It is commonly found in the arterioles of the spleen, uterus, kidney, and brain. It is said to be physiological in the spleen where it is present in 15 per cent of persons under the age of ten years, and in 75 per cent over sixty. Amyloid change falls in this class and may be differentiated by its special staining reactions.

The arteriocapillary fibrosis of Gull and Sutton is an exaggeration of the pathologic processes of the arteries seen with advancing age. In the arterioles of the kidney, spleen, liver, and other organs, there is a deposition of hyalin beneath the endothelium, or a hyperplasia of the internal elastic membrane with formation of many lamellae. Subsequently hyalin and fatty change and connective tissue proliferation narrow the vessel lumen. In the later stages the medium atrophies and is the site of fatty and hyalin change and ultimately connective tissue replacement. There is a dispute as to the distribution of the lesions, Gull and Sutton believing the changes to be generalized in all the arterioles and small vessels. Borchardt[4] saw no outstanding kidney involvement, whereas Fahr maintains the predominant lesions to be renal. Fishberg,[5] in seventy-two cases of essential hypertension at autopsy, found involvement of the renal vessels in all, the splenic arterioles in two-thirds, the pancreatic in one-half, the hepatic in one-third, and the cerebral in one-fifth.

Hypertrophy of the media is considered important by Albutt[6] as he believes that it may be a precursor or the first stage of arteriocapillary fibrosis. The thickening of the media may be apparent or real and may be followed by fibrous changes.

Endarteritis obliterans is a regenerative proliferation of the collagenous connective tissue fibers of the intima, without change of the elastic membrane. Physiologically this process occurs in the ovary and elsewhere as an involutionary change.

ETIOLOGY

It is apparent that it will be difficult to find a single factor responsible for a condition presenting such widespread and varying manifestations. There is disagreement as to the identity and relationship of the various processes and still further dispute as to their cause. The etiological factors may arbitrarily be grouped under the headings: mechanical; metabolic; endocrinologic; infectious; nervous; hereditary predisposition; and intoxications.

Mechanical.—Kaufmann sharply differentiates fatty change from arteriosclerosis and believes with Virchow and Orth that simple fatty change or infiltration of the intima is a separate entity and not the primary step. He reasons that the walls of the larger arteries during the ascending period of life are strengthened to meet the increasing demands by thickening of the muscular media and elastic tissue of the intima. A time may be reached when the possibility for further adjustment is exhausted, in which event, due to overstretching and the injuries of infections and intoxications, connective tissue increases. This is partly physiological, and through its insufficiency regressive changes may set in as fatty or hyalin degeneration and calcification.

Beitzke[7] supports Thoma's conception that a primary medial injury explains all the manifestations of arteriosclerosis. He likewise believes that lipoid flecking is not the first stage because of its different sites and time of appearance, capacity for regression, and lack of other intimal change. By paraffin filling, the thickened regions of the intima are demonstrated not to encroach upon the lumen of the artery. He maintains that beneath every sclerotic plaque the medium is thinned or weakened, and that the intimal thickening has developed to prevent bulging out of the arterial wall. Infectious diseases are cited as most important in causing medial injury; increased blood pressure, toxic and metabolic disturbances playing a secondary rôle.

Aschoff postulates a mechanical background in the increased infiltration of blood plasma into the intima at points of stress where there is loosening and abnormal permeability of the tissue elements.

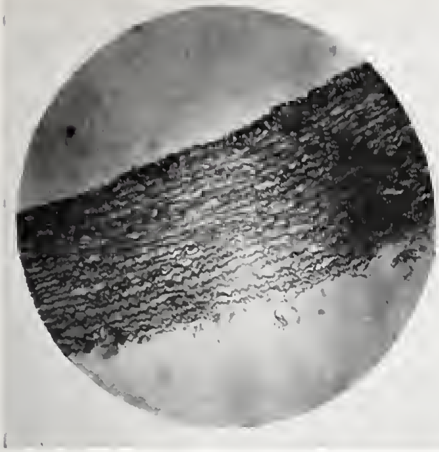

Fig. 1.—Rabbit's aorta, stained by Unna's orcein to demonstrate elastic tissue. (X100.)

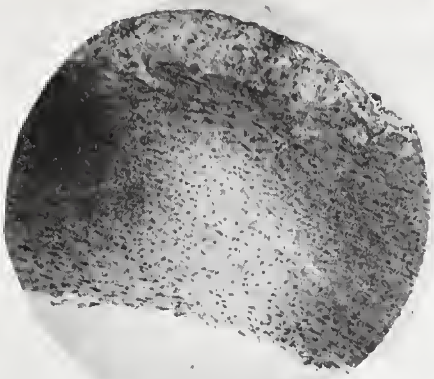

Fig. 2.—Rabbit's aorta, small intimal fatty plaque. (X100.)

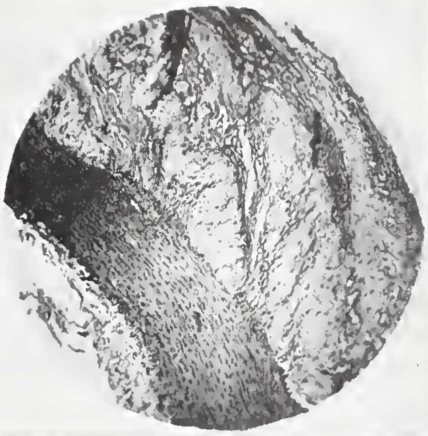

Fig. 3.—Extensive sclerosis of rabbit's aorta, produced by high protein feeding. (X100.)

Of importance in this connection are the age of the individual and the cholesterin content of the blood plasma. An increased cholesterin content of the blood has been demonstrated in infancy and puberty, an age when atherosis is prone to occur.

Moschowitz [8] seeks to prove the assumption that arteriosclerosis is the result of intravascular pressure alone, either a long-continued normal pressure, or a heightened pressure for a shorter period of time. As evidence he cites sclerosis of the vessels of the pulmonary circulation in diseases in which the pressure is raised locally as in mitral stenosis; similarly phlebosclerosis in states of chronic passive congestion. He maintains that the changes produced by cholesterol feeding are not true arteriosclerosis, but merely lipoid infiltration without other intimal change, and that such changes are not developed by carnivora.

Fishberg [5] considers arteriocapillary fibrosis as the histologic symptom of hypertension. He differentiates it from senile arteriosclerosis on the basis of the constant association with hypertension, younger age incidence, and involvement of the smaller arteries and capillaries as opposed to the large vessel distribution of the senile type. He does not believe that this condition is the cause of hypertension, as there is limited involvement of the circulatory bed and not nearly enough to increase the pressure mechanically by raising the peripheral resistance. Likewise, the limited distribution is evidence against the theory that the damage is caused by substances retained by the kidney and the anatomic changes of the kidney support this view. Moschowitz and Romberg [9] look upon the relationship of nephritis to hypertension not as one of cause and effect, but rather feel that the former is an expression of a generalized capillary disease. In addition, Romberg considers essential hypertension a comparatively rare disease, as kidney changes are always demonstrable histologically.

Metabolic.—Cholesterol, a nonatomic alcohol, nonsaponifiable by boiling alcohol, a constituent of the blood, and crystallizing in thin transparent plates, has occasioned extensive investigations. In 1913 von Wacher and Huecke [10] reported the production of atherosclerosis by feeding cholesterin to animals, with supplementary oleic acid injections. There were hypercholesterolemia and deposits of cholesterol in various organs. Kaczander [11] has pointed out that cholesterol accumulates in regions with the greatest CO_2 tensions. Schmidtmann [12] has shown that the p^{H} of elastic and collagenous fibers of the vessel wall is always acid, whereas the ground substance between them varies widely in both directions and tends to be alkaline in the young and acid in the aged. The chondromucin therein has been demonstrated by Anitschkow [13] to have an especial absorption affinity for lipoids. Therefore, Hueck claims that, in addition to increase of cholesterol intake and resorption relationships, the electrolyte balance of the reaction medium is one of the important associated phenomena which lead to lipoid storage in the vessel walls. Clarkson and Newburgh [14] regularly caused hypercholesterolemia and atherosclerosis in a few weeks by large amounts of cholesterol in the diet of rabbits. With high protein diets alone the same conditions were brought about and attributed by these workers to a metabolic disturbance directly referable to a protein excess and not to its cholesterol content. Lowenthal [15] found in rats that marked arterial changes may be produced by high protein and cholesterol diets. He believes that protein feeding increases the absorption and retention of cholesterol. Schmidtmann was unable to produce atherosclerosis except when chronic hypertension occurred following the high cholesterol feeding, whereas Thölldte [16] produced vessel changes in the absence of increased pressures. Anitschkow holds that without high cholesterol feeding no sclerosis can be produced.

Langstroth [17] analyzed the dietaries of five hundred patients with degenerative diseases and found that a diet containing a large percentage of nonprotective foods is conducive to early degenerative disease. As protective foods, he classifies eggs, milk, fresh-cooked vegetables, fruit, and lettuce. These contain vitamins, residue, and alkaline minerals, and constitute only 12 per cent of the average diet, the bulk being made up of concentrated foods, high in carbohydrates and acid minerals. Nuzum[18] has produced marked atherosclerosis in rabbits by feeding high protein diets of the acid ash type. These animals secreted acid urines and developed hypertensions.

Endocrinological Influences.—The influence of the endocrine glands has been sought from several different angles. Glaser,[19] by injection of adrenalin was able to increase blood cholesterol considerably, and advanced the idea that sympathetic stimulation may lead to its deposition at the site of local vessel changes. He cautions against the transference of results of cholesterol feeding in animals to man, since it is impossible to produce, experimentally, deposition of lipoids in the vessels of carnivora, since hypercholesterolemia is present only in the earliest stages of arteriosclerosis in man, and because a long-continued high level of cholesterol in the blood of man may be present without resultant arteriosclerosis. Schmidtmann[12] found that the action of adrenalin is enhanced in Ringer's solution containing cholesterol or allied lipoid substances, as compared with the plain solution, and that a strip of muscle in such a solution gives the greatest contraction when the p^H is slightly acid and becomes progressively less marked as the reaction is brought to the alkaline side. Shapiro[20] finds that the deposition of cholesterol in the aortic intima in rabbits on high cholesterol diets is hastened by thyroidectomy, splenectomy, and gonadectomy. That castration slows the excretion of cholesterol has been brought out by Lowenthal.[15] Allen[21] demonstrated a close relationship between increased functional activity of the suprarenal gland and hypertension from the increased total area of the lumina of the veins and the heightened ratio of muscle to lumina.

Medial necrosis is easily produced in animals by injections of adrenalin and the necrosis is frequently followed by calcification. This type of change of the media is often found spontaneously in rabbits. Diabetes, a disease in which there is often a disturbance of lipoid metabolism, is frequently associated with arteriosclerosis of the large vessels and the Mönckeberg type in the extremities.

Infections.—Saltykow,[22] by injecting cultures of low virulence of staphylococci into animals, produced both medial and intimal changes, the latter identical with an early stage of human arteriosclerosis. In subsequent papers, however, he feels that the changes are really due to the diets fed. From a clinical investigation Lathrope[23] concludes that there is a suggestive etiological relationship between oral sepsis and cardiovascular renal disease. Nuzum and Elliot[24] could find no such relationship in a series of two hundred and fifty patients with arteriosclerosis and a like number of controls. Virchow's idea of an inflammatory process underlying arteriosclerosis is expressed in his term "endarteritis deformans," and is not held today. It is recognized that medial injuries often result from infectious diseases as typhoid fever and diphtheria, and diphtheria toxin has been used to damage the muscular coat of the arteries of animals. Anitschkow[13] mentions that toxic influences may predispose the vessel wall to deposits of cholesterol.

Nervous Influences.—The participation of the vegetative nervous system has been mentioned in connection with the action of adrenalin. Lowenstein[25] concludes that the effect of cholesterol, calcium, or salt on the blood vessels is only secondary through their action on the vasomotor centers. Moschowitz[26] attaches great importance to the constitutional type prone to development of arteriosclerosis and hypertension. He describes such an individual as soft-muscled, overweight, tense, irritable, and an untiring worker. He believes that psychic states may affect the caliber of vessels by means of the vasoconstrictor nerves, and that continued elevation of the blood pressure eventually may lead to organic changes in the vessel walls, thus stabilizing the high pressures.

Hereditary Predisposition. — Most observers recognize the importance of the hereditary factor. O'Hare in a series of three hundred patients with arteriosclerosis found a family history of vascular disease in 68 per cent, and only 36 per cent in controls. Mortensen,[27] in a study of nine hundred persons concludes that heredity is a very positive factor in arteriosclerosis and diabetes.

Intoxications.—Alcohol and tobacco have been suspected as capable of producing arterial damage with little evidence for support. Lead, however, is known to cause vasoconstriction, and both intimal and medial injury.

SUMMARY

The experimental production of arteriosclerosis is unsatisfactory because of its spontaneous occurrence in rabbits, uncontrolled factors of the environment, and because of the difficulty in estimating the importance of the vegetative nervous system. The problem is many-sided and its solution will involve, among other things, a better understanding of the physicochemical processes of the cell. It is very likely that arteriosclerosis is the organic end stage of a beginning functional derangement, and that factors of diet, heredity, infections, etc., play important secondary rôles.

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DISCUSSION

Newton Evans, M. D. (1117 Pine Street, South Pasadena).—Doctor Evans' paper presents a review of the pathology and the possible causative factors of arteriosclerosis not only in a concise, but also a comprehensive way. He has rendered a distinct service in pointing out in his summary that spontaneous arteriosclerotic changes are liable to occur in the rabbits used as experimental animals, thus rendering them to a considerable extent unsuitable for experiments of this kind. It is evident that we have not as yet progressed very far in any real understanding of this disease.

From the standpoint of its clinical importance, vascular disease has two principal aspects, viz.:

1. Disease of the larger arteries which is for the most part of extrarenal importance and which results in such accidents as cerebral hemorrhage and thrombosis, coronary narrowing and occlusion, occlusions and hemorrhages in mesenteric vessels, vascular obstructions of the peripheral arteries resulting in gangrene, particularly of the lower extremities, and the rare arteriosclerotic aneurysms. The lesions producing effects such as these are possibly more properly called arteriosclerosis proper or atherosclerosis.

2. The more obscure group, and one more difficult to understand, of arteriocapillary changes seen in the smallest vessels of the kidneys and the capillary loops of the glomeruli. These are possibly always associated with general involvement of the capillaries throughout the body. The hypertension, which practically always accompanies this lesion, whether as cause or effect, of course is often one of the factors in the arteriosclerotic accidents encountered in the first group mentioned.

Extensive study of these capillary lesions is sorely needed and should furnish illumination for much of the obscurity which now exists in the field of vascular-renal disease.

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Emil Bogen, M. D. (Olive View).—Hardening of the arteries is one of the oldest and most widespread of the chronic disease processes, and with the increase in the average longevity of the population is becoming of everincreasing importance. It is well worth while, therefore, to examine our knowledge of this condition in the hope that new avenues of approach to the understanding of its pathogenesis may be opened.

Whatever vascular changes may occur as a normal involutionary accompaniment of old age, the arteriosclerotic process cannot be confined to geriatrics, since it is encountered to varying degrees at the earlier ages also. Despite the dictum that a man is as old as his arteries, these vessels themselves are not all of the same physiological age; hyaline changes, and even calcification occurs in certain vessels normally in quite young individuals, and pipe-stem radial arteries do not bear the same prognostic import as do corresponding changes in the vessels of the brain or coronary system.

Recent work on the calcification of blood vessels as a result of the administration of irradiated ergosterol, as well as the earlier reports of similar results from nicotin, adrenalin, high protein diets and certain particular amino-acids, and numerous other agents, even though performed on animals in which spontaneous arteriosclerosis is known to occur, cannot be entirely disregarded. Nevertheless, it may be recalled that even these known soluble agents result, not in a diffuse uniform thickening of the arterial walls, but in patchy discrete flecks and plaques, which only later tend to merge into continuous alterations of the blood vessel walls.

The etiology of arteriosclerosis involves, therefore, not only the agents responsible for the occurrence of the process at all, but also all factors concerned in its localization in vessels of a certain size, type, and position, and the particular type of lesion produced. The local factors concerned in the deposition of cholesterin and other lipoids, the accumulation of calcium salts, and the even more fundamental and mysterious hyaline and other "degenerative" changes in the tissues of the arterial walls must be elucidated before we may understand the entire mechanism involved.

We are grateful to Doctor Evans for his review of the work that has been accomplished in the past, and hope that further studies may clear up the many points that, as he has shown, still remain obscure.

X-RAYS IN THE DIAGNOSIS OF PREGNANCY

ARE THEY INJURIOUS TO FETUS OR OVARY?

By L. H. GARLAND, M. D.
San Francisco

DISCUSSION *by Philip H. Arnot, M. D., San Francisco; Irving S. Ingber, M. D., San Francisco; T. Henshaw Kelly, M. D., San Francisco.*

THE endeavor of this short article is twofold: first, to show how early in pregnancy a positive diagnosis may now reasonably be sought, including the demonstration of twins or other multiple pregnancy and the exclusion of the grosser fetal or pelvic deformities; and secondly, to dispel the curiously persistent and really absurd fear of injury to either fetus or mother by the type or quantity of rays used in roentgen examination. Needless to say, both these subjects have been extensively reviewed and discussed many years ago, but superstition still seems to die hard, and the extent to which many physicians and obstetricians permit the imagination of others to lead them, especially concerning this question of damage to the gravid uterus or its contents, suggests the advisability of reviewing the subject in the light of recent studies.

ROENTGEN DETECTION OF PREGNANCY

Ever since Mullerheim,[1] at Leipzig in 1899, showed roentgenograms of the fetus in utero, physicians have been seeking a technique which would enable an earlier demonstration of the fetus, either by direct or indirect means. The direct method implies the demonstration of the fetal skeleton and is the one chiefly considered in this article. The indirect method is used before the fetal bones are demonstrable and includes pneumoperitoneum, hysterography and "amnionography." Pneumoperitoneum was employed over twenty-eight years ago and consists of outlining the enlarged uterus by surrounding gas or air; it is not exactly a simple procedure and the information gleaned is inconclusive. Hysterography consists in the cautious intra-uterine injection of iodized oils, thereby outlining the ovum; while definitely informative, it is obviously dangerous. Amnionography or outlining the amniotic sac by the intravenous injection of various halogen salts has been attempted; Albano[2] tried several dyes in an effort to show the placenta or liquor amnii during the first two months and concluded that strontium bromid (two grams in ten per cent solution) was the most satisfactory. However, all of these methods are not really conclusive and are obviously inapplicable until some weeks have elapsed since conception. Tests such as the Zondek-Aschheim test will have been long since positive, although it must be conceded that this reaction is also indirect, and hardly as decisive as the shadow of the fetal skeleton. Even in the best hands it takes almost a week to complete, whereas a positive roentgen examination requires less than thirty minutes at the outside.

Following Mullerheim's[1] report in 1899, came papers by Bouchacourt (1900) and Fabre[3] (1909). Edling[4] in 1911 published a paper which included drawings showing the fetal skeleton as early as the third month, excellent roentgenograms of fetuses from the fifth month on; and one of twins. Warnekros[5] and Wiebel[6] published, independently, in 1919, roentgenographic studies of labor at term and demonstrations of placental separation (by the injection of opaque media into the umbilical vein, following division of the cord). Warnekros[5] also published a beautiful atlas of full-size prints made from serial roentgenograms taken during labor. Edling,[4] in a later paper, reported two hundred and seventy cases examined up to the end of 1923: twins were confirmed in fifty-one and excluded in sixty-four cases, triplets were diagnosed twice. Besides demonstrating normal fetuses, many abnormal conditions have been either confirmed or discovered by roentgen examination. Garrison[7] (1900) and Imbert[8] (1908) reported roentgen diagnoses of extra-uterine pregnancies; Gilmore[9] (1913) reported a lithopedion and Edling[4] (1924) diagnosed, rather fortuitously I think, the presence of a ruptured uterus. Many anomalies have been reported, Case[10] (1917) recognizing anencephaly for the first time. Since then many unusual cases of various kinds have appeared in the roentgen literature.

Ossification of the fetal skeleton begins about the seventh week of intra-uterine life and is usually well advanced toward the end of the third month. From then on, with reasonable care, good films should show definite shadows. These are small and faint, showing clearly only in perfect roentgenograms. They consist at first of a faint string-of-beads shadow (the fetal spine) with a thin crescent at one end (the occipital bone); later the complete oval shell of the fetal skull can be discerned, and, perhaps, the tiny fetal rib cage, showing up as a minute basket shadow or as a row of thin parallel flecks. When first seen this fetal skeleton may be less than an inch in length and may only be found after considerable searching, even with perfect illumination. The long bones first seen (femur, tibia, and humerus) are often quite hard to see at this stage; they may, with or without the rest of the fetal skeleton, be obscured by the underlying maternal sacrum. It is probably just as difficult for the average physician, not looking at roentgenograms frequently, to see these delicate thread-like shadows as it is for most medical men to pick out occasional mitotic figures when histological sections are only occasionally glanced at.

Recently, by employing careful preparation of the patient, perfect roentgenographic technique and various positions (oblique as well as the usual lateral and anterior views), Jungmann[11] has been able to show the presence of centrally situated, round, ringlike dots as early as the eighth week. These represent the faintly calcified fetal long bones, projected axially. However, these findings are not so conclusive as the spine or occiput

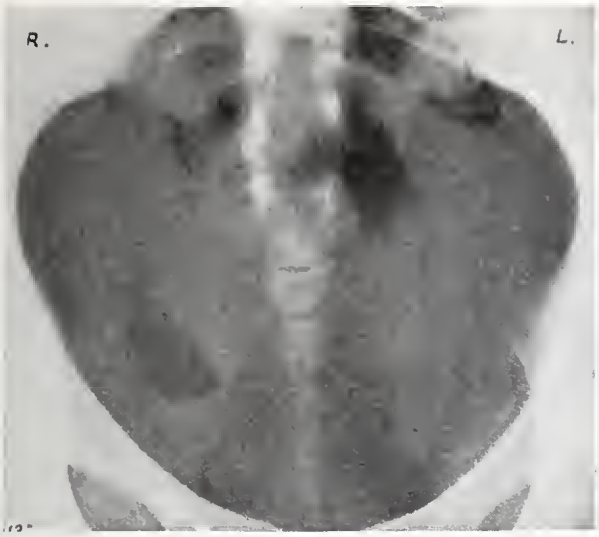

Fig. 1.—Pelvis showing faint shadows of a fetal spine to the left of the last piece of the sacrum and coccyx. Outline of vertebrae barely visible in the reproduction, but clearly seen in the original negative. Thirteenth week. (Note: In this and subsequent illustrations the fetal age is estimated from the known subsequent date of birth, which appeared to be at normal term in all cases illustrated.)

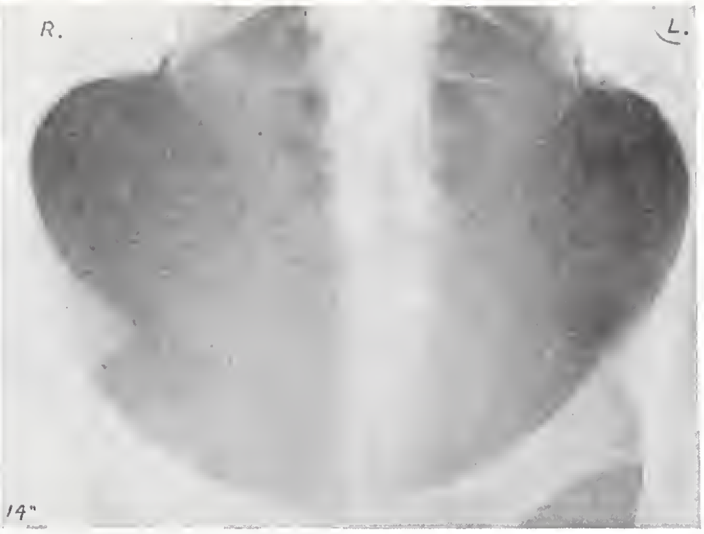

Fig. 2.—Pelvis showing fetal skeleton to right of upper portion of sacrum; fetal skull outline indistinct owing to underlying vertebrae. Fourteenth week.

shadows which have only been demonstrated in my own experience after the twelfth week. Since the least motion on the part of the patient or fetus will blur these early shadows and render them invisible, a negative report between the third and fourth months is not conclusive. After the fourth month, provided the patient is not excessively stout, and her bladder and rectum have been properly emptied so that a clear film of the pelvic soft tissues can be made, a positive diagnosis should be obtainable almost without exception. A single film does not exclude pregnancy, since who can say whether or not there was some intrauterine activity during the exposure; three negative films are practically conclusive.

In the early stages the best technique at present seems to be: Patient's rectum and bladder being empty, have her lie supine with sandbag or other supports under the lumbar spine to increase the normal lordotic curve and make at least one film with tube tilted toward patient's feet, "angling" into the bony pelvis; then one ordinary anteroposterior view and one lateral sacral view. Bucky diaphragm, cone, low penetration, and high milliamperage are essential. Jungmann[11] and de Lee recommend marked compression, either by band or cone (in the supine position); other authors say compression is not only inadvisable, but actually encourages fetal activity. Personally, I think compression is useful in these early months. After the fifth month the fetal skeleton can be shown by almost any technique, even without preparation.

When positive shadows of doubtful nature are encountered, the differential diagnosis is usually simple. Faintly calcified myomata are rare, and are said to show as a network of fine lines. Calcified glands and vessels are usually quite laterally placed and much denser than the tiny fetal bones. Dermoids and metallic residues from intramuscu-

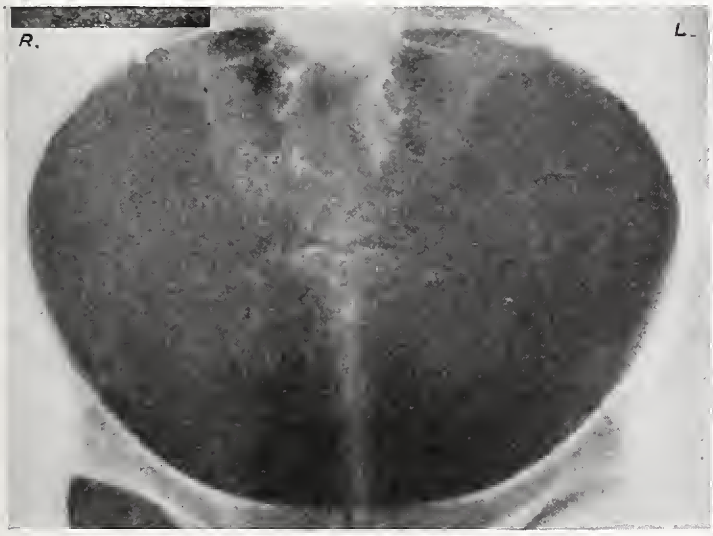

Fig. 3.—Pelvis showing completely outlined fetal skeleton. Fourteenth week.

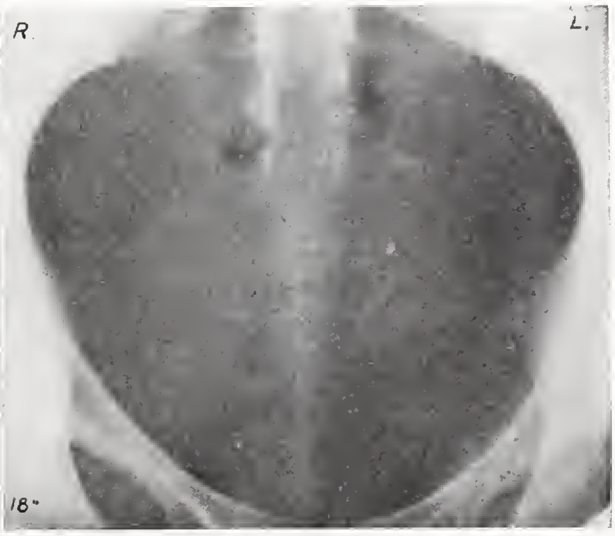

Fig. 4.—Pelvis showing fetal skeleton overlying lower sacrum and coccyx. Reproduction poor; original negative quite distinct. The skull lies to the right. Eighteenth week.

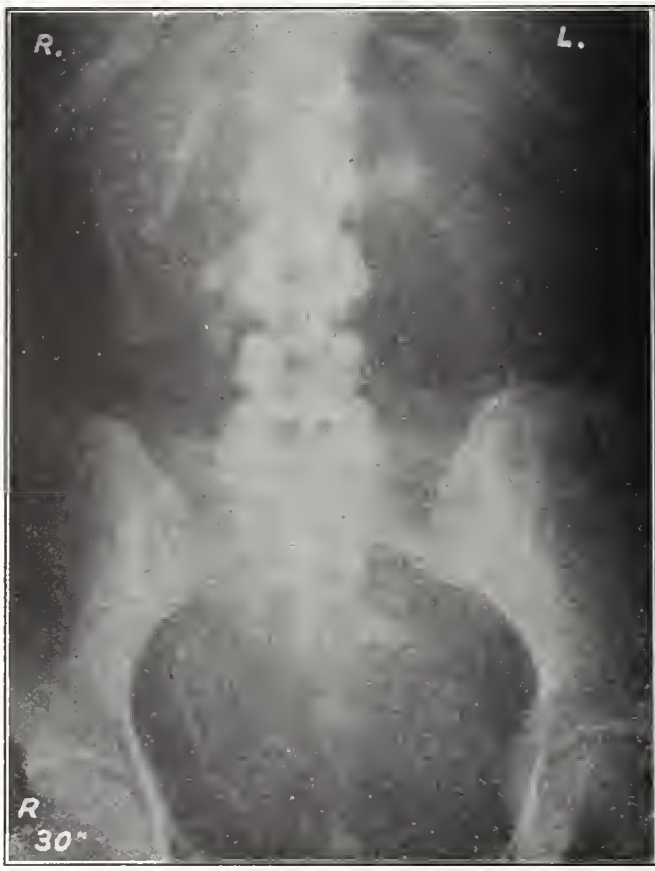

Fig. 5.—Abdomen showing fetus with its back lying to the mother's left. Outline indistinct owing to fetal motion. Thirtieth week.

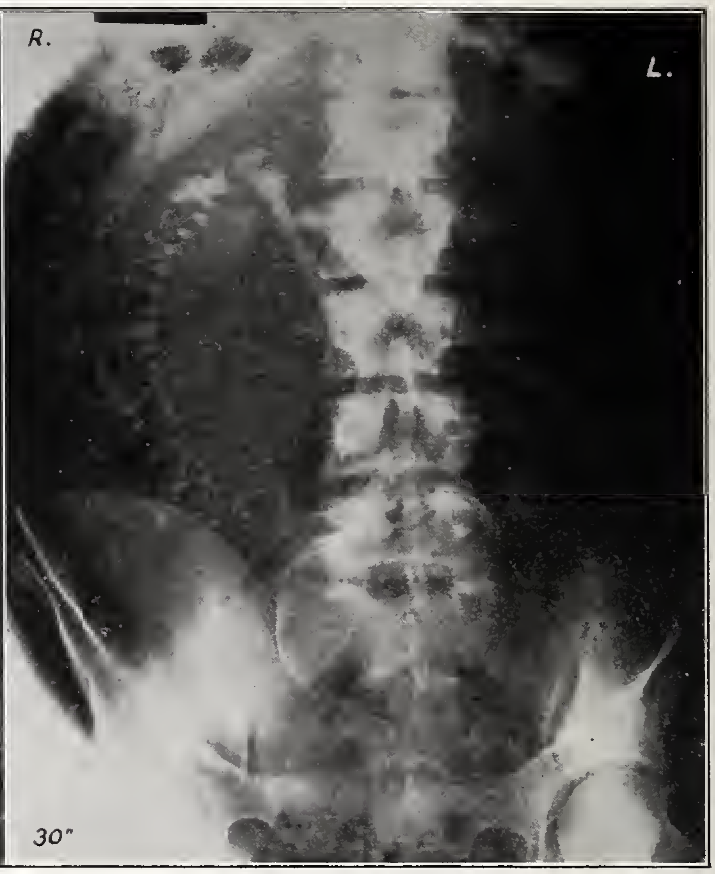

Fig. 6.—Abdomen showing fetus with its back to the mother's right. Thirtieth week. (Note: This case had been diagnosed as an abdominal tumor, probably ovarian cyst. Patient had been scheduled for operation. The patient was single, under thirty, and had denied the possibility of pregnancy. The roentgenogram was made purely by accident, the request for examination having been canceled without the technician's knowledge, after the attending physician had left the ward.)

lar injections are quite distinctive. Köhler [12] remarks that calcified placentae have been observed pathologically, but none ever reported in roentgenograms. They must be exceedingly rare. If in doubt, reëxamine after further preparation.

Concerning the diagnosis, in later months, of abnormalities and dead infants much has been written. Hydrocephalus is suggested by unusually large fetal skull outlines. Spina bifida, in its grosser forms, has been recognized by the usual vertebral defects. Fetal teratoses, such as anencephalic and double monsters, have been reported fairly frequently. In the later weeks of pregnancy, intra-uterine fractures of the long bones should be visible in good films; owing to the almost constant activity of the child at that stage, a negative report can only be based on exceptionally perfect films. Overlapping of the fetal skull bones used to be considered pathognomonic of a dead fetus, but since this appearance has been observed in some instances of subsequently normal nature, it is no longer considered absolutely decisive. Of course, very marked overlapping of occipital and parietal bones, in the presence of clinical evidence, is very suggestive of a dead child. Abdominal pregnancy has been diagnosed by an unusual or sprawled-out position of the fetus, its outline being no longer "elliptoid." This appearance also has been shown not to be pathognomic, except when supported by the clinical evidence.

NONINJURIOUS NATURE OF ROENTGEN EXAMINATION

The question whether x-rays are injurious to the fetus or mother has been repeatedly raised, especially since Bailey and Bagg's [13] paper published in 1923. These authors and many others, including Stettner,[14] Berkeley,[15] Stacey,[16] Archangelsky,[17] Clark and Keene [18] have published cases of postradiation fetal and maternal injuries, varying from infantile alopecias to teratoses, and from stillbirths to abortions; but, on looking up these and many similar cases in the literature, one discovers that the radiation in all of them was therapeutic, not diagnostic. Relatively huge doses of roentgen or radium rays had been given for conditions varying from simple menorrhagia to cancer of the cervix. Bailey and Bagg [13] treated a glioma of the cord, Strettner [14] radiated uterine myomata, Berkeley [15] used radium, Stacey [16] treated menorrhagia, Archangelsky [17] deliberately attempted to produce abortion in ten patients with pulmonary tuberculosis, and Clark and Keene [18] treated myomata, etc. These are just a few of several papers misquoted by other writers to show the "danger of taking x-rays during pregnancy." Goldstein and Murphy [19] have recently exhaustively reviewed the literature on the subject. They conclude, with many others, that there is no suggestion that diagnostic pelvic radiation during pregnancy is deleterious in any way to the health of subsequent offspring.

Seven years ago Stein and Arens[20] reported over five hundred cases in which anything from two to ten films were taken during pregnancy, with not a single instance of damage found. The exposures are much smaller than those required in gastro-intestinal examinations, thousands of which must be made of patients with early or unsuspected pregnancy. Horner[21] could find no instance of maldevelopment in over two hundred and fifty cases. Case has examined the gallbladder region in hundreds of pregnant women, making serial studies on several; no cases of injury were observed. Personally, in the small series examined, I have seen no suggestion of defect or damage to either mother or infant.

Since x-rays, therefore, when properly used for purely diagnostic purposes, are so harmless to both patient and fetus, why is it that they are not more often employed in the differential diagnosis of doubtful pelvic tumors, suspected twins, and other conditions associated with or simulating pregnancy? Either their use is overlooked, or else it is felt that the additional expense is not justified. The latter reason is unquestionably sound when it is merely a means of confirming an obvious diagnosis. But when the diagnosis is in doubt or multiple pregnancy is suspected, it is difficult to see any logical reason, economic or otherwise, for hesitation (or actual refusal) to have so simple a laboratory examination made. When one considers the number of cases, small though it may be, of hydatidiform mole that might have been suspected by prompt roentgenological examination and so removed early, one is struck by the fallacy of the economic argument. Again, on purely "economic" grounds, the positive knowledge beforehand that twins are present would seem to be an obvious convenience . . . though doubtless it would remove the pleasant element of chance following the ordinary diagnosis of "large child" or "hydramnios."

COMMENTS

With proper preparation and careful technique the fetus can be demonstrated many times during the third month. During the fourth month, roentgenograms will almost always show the skeleton. From the fifth month on, diagnosis by x-ray is comparatively simple.

No single case of injury to either fetus or mother following the use of x-rays for purely diagnostic purposes has even been reported.

The roentgen demonstration that a fetus is present is the earliest positive proof of pregnancy. It is a safe, simple and rapid method of definitely deciding the presence or absence of twins. It is also invaluable in the differential diagnosis of pelvic tumors of uncertain origin.

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DISCUSSION

Philip H. Arnot, M. D. (490 Post Street, San Francisco).—The chief point brought out by Doctor Garland is that x-ray examinations may be made at any stage during pregnancy, without injury to mother or fetus. This fact is generally accepted now, and no physician should fear a roentgen examination during pregnancy as long as a diagnostic dosage is used. As pointed out in the paper, harm can only come from larger or treatment dosages. In practice, roentgen examinations chiefly aid in determining the presence of more than one fetus, and also in determining whether an abdominal enlargement is due to a pregnancy or a pelvic tumor (uterine fibroid or ovarian cyst).

It may be practically impossible at times to be sure of the presence of twins by abdominal examination. In such cases x-ray examination should be made and the patient advised accordingly in order to plan for the additional clothing, bed, etc., which a twin would require.

We have all seen cases of pelvic tumors (uterine fibroids, particularly) the size of a five or six months' pregnancy in which we have been unable to make a positive diagnosis. We may suspect fibroid or pregnancy, or both, and in most of the cases there are no urgent symptoms and the patient is perfectly willing to wait and let time make the diagnosis. But where there is an insistence upon a more definite diagnosis the x-ray can help us accurately from the fourth month on. Before this time I would rather depend upon the Zondek-Aschheim test.

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Irving S. Ingber, M. D. (490 Post Street, San Francisco).—Doctor Garland, in his paper, has very accurately evaluated the usefulness of the roentgen examination in the diagnosis of pregnancy. His compilation of proved facts, in addition to his personal experience, should convince even the skeptical that a roentgen examination for diagnostic purposes is positively harmless, both to the mother and the embryo, and is the most accurate method available in the differential diagnosis between pregnancy and pelvic tumor, multiple pregnancies, monstrosities, and gross pelvic deformities.

The use of roentgen rays in the early diagnosis of pregnancy (before the sixteenth week) cannot be accurately made with sufficient frequency to warrant its recommendation except in very selected cases, as there are too many conditioning factors which cannot be controlled.

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T. Henshaw Kelly, M. D. (490 Post Street, San Francisco).—There is very little to add to Doctor Garland's presentation of the roentgenographic diagnosis of pregnancy. He has stressed the important fact that diagnostic x-ray procedures during pregnancy are harmless both for mother and fetus.

In practice I believe the value of roentgenographic examination lies not so much in the early diagnosis of pregnancy—which is better done by the Zondek-Aschheim test—but in the differentiation of pregnancy and tumor masses and in the determination of the presence of twins, monstrosities, and malformations of the pelvis.

Unquestionably the reasoned use of roentgenographic diagnostic procedures adds definitely to the means available for determining the existence of pregnancy, its questioned duration, and certain conditions obtaining in the fetus.

TULAREMIA IN CATTLE AND SHEEP*

By J. C. Geiger, M. D.
San Francisco

Discussion *by K. F. Meyer, Ph.D., San Francisco; W. T. Cummins, M.D., San Francisco.*

TULAREMIA is an infectious disease. It is caused by the *Bacterium tularense*. It is primarily in nature a disease of wild rabbits, yet its zoölogical habitat or distribution may be in many other animals. Man receives the infection secondarily, the mode of transmission being from rodents to man through the bite of an infected blood-sucking fly or tick or by contamination of open wounds or skin abrasions usually on the hands or conjunctiva, generally with the liver or spleen or other portions of the infected rodents or other susceptible animals, and from certain flies and ticks and perhaps other blood-sucking insects as the mosquito. In fact, the latter possibility was suggested by Geiger and Meyer [1] in their epidemiological investigation of tularemia in Nevada. Moreover, these authors indicated such bizarre methods of transmission as dogs licking open wounds, coyote pup bites (both dogs and coyotes having been known to have been chasing rabbits), the wiping of hay knives on machines after cutting through or into rabbits nesting in the hay, barbed-wire cuts, the handling of dead animals such as turkeys. Francis mentioned a case that followed the bite of a ground squirrel in Montana, and one from the bite of a hog in Iowa. Direct contact cases from man to man are exceedingly rare if they occur at all. The disease has many synonyms among which are plague-like disease of rodents, deerfly fever, rabbit fever, and the glandular type of tick fever.

GEOGRAPHICAL DISTRIBUTION

The geographical distribution of the disease must be extraordinarily wide. Cases have been reported from nearly every state except the New England States, and all the Pacific Coast states except Washington. Geiger and Meyer [1] reported two hundred and ninety-three cases from Nevada alone, and stated that the disease has probably been endemic and unrecognized in Nevada since 1912 though the first case was only reported in 1926. According to the *Bulletin of the California State Department of Public Health*,[2] cases of tularemia were not recognized in California until 1927. The disease was made reportable in June 1928. A total of fifty-four cases have been reported in California of which sixteen occurred in 1928, twenty in 1929, and twelve to May 1, 1930. However, Francis quoted a case from National City, California, in 1904, and quite a number of the California cases received their infection in Nevada. Ohara's disease described in Japan [3] is tularemia, and the first knowledge of this disease in that country was contained in a book by Hamma in 1837, who spoke of an intoxication by rabbit meat. The toxicosis was originally thought to be due to berries of trees or poisonous barks.

ANIMAL DISTRIBUTION

The animal distribution other than man is likewise remarkably wide, but human cases have not resulted from contact with all of these. McCoy [4] gave the first scientific information when he disdiscovered a plague-like disease in California ground squirrels from Tulare County, California. McCoy and Chapin [5] later reported the isolation of the causative organism and named it *Bacterium tularense*. *Bacterium tularense* has been demonstrated in squirrels, wild rats, wild mice, quail, grouse, partridge, pheasants, woodchucks, muskrats, cats, water rats in Russia, wild rabbits in the United States and Japan, coyotes and sheep. Parker and Dade,[6] in reporting on heavy losses among sheep in eastern Montana and southern Idaho, stated that as far as southern Idaho is concerned, the tick-caused pathology in sheep has been due largely, if not entirely, to tularemia. In one herd, affected animals with temperatures of from 106 to 107.8 degrees Fahrenheit were numerous. Many were scouring. There was a high carriage of the head due to regional lymph node involvement, loss of weight, and stiff-legged walk and stupor with persistent cough. Many of the animals died. Furthermore, these authors reported laboratory tests on eight affected animals in this particular herd with the following results: That sera of both acutely ill and recently recovered sheep agglutinated tularemia antigen in high dilution; that tularemia infected tissues and ticks were recovered both from dead and from acutely ill sheep, and that *Bacterium tularense* was recovered in pure culture from sheep tissues and from infesting ticks. The only gross pathology was enlargement or injection of regional glands in the neighborhood where ticks are frequently attached. The evidence presented as to tularemia in sheep is apparently conclusive and the condition known as tick paralysis, presumably produced by a toxin secreted by the salivary glands of engorged female ticks, as described by Hadwen,[7] is dissimilar but must be differentiated. It is decidedly interesting to note that Parker and Dade mention an observation of Francis's that abortion was noted in an experimentally infected sheep. Parker and Brooks,[8] in commenting upon a pathological condition of two groups of cattle on a ranch near San Benito, California, stated that the symptoms were an apparent typical paralysis. Several of the animals died. One of the groups of cattle was shipped from Madera County, California, and the other from Denver, Colorado. The feeding range was tick-infested, but local cattle on the same range were not affected. Ticks and blood serum were secured from one animal. The ticks on reaching the laboratory were dead, but one each was injected into guinea pigs. Several of the injected animals died with lesions indicating tularemia, and subsequent cultures from the spleen were agglutinated by tularemia-immune human sera. Likewise, the blood serum of the steer agglutinated both *Bacterium tularense* and *Brucella abortus* in dilutions of 1:10, 1:20, and partially in 1:40. Another blood serum agglutinated *Bacterium tularense* 1:40 and partially in 1:80, and *Brucella abortus* in dilutions 1:10 and 1:20. The writers very rightly state that the above data are not sufficient to justify any assumption as to what part *Bacterium tularense* might have played in the pathology of the affected cattle. Perhaps these observations are best described as an indication of the wide dissemination of tularemia in animals and blood-sucking insects. Certainly the agglutination titer is well within the limits to be expected in the cross-agglutination of *Brucella abortus* and *Bacterium tularense* and is of doubtful diagnostic significance. The two human cases from contact with sheep reported by Geiger and Meyer are apparently the first recorded from this source. The intermediary hosts are probably numerous and the known list far from being complete. Deerflies, horseflies, woodticks, rabbit lice, bedbugs, possibly mosquitoes, have been involved. The main sources are flies and ticks. Flies of the blood-sucking species known as *Chrysops discalis* and commonly found on horses and cattle, presumably transmit the infection mechanically. In Utah the disease in man was for years popularly known as deerfly fever. Francis and Mayne[9] proved the *Chrysops discalis* to be a transmitter of the infection.

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* Read before the Pathology and Bacteriology Section of the California Medical Association at the fifty-ninth annual session at Del Monte, April 28 to May 1, 1930.

HEREDITARY TRANSMISSION OF INFECTION BY WOODTICK

The woodtick of the species *Dermacentor andersoni,* already involved in the transmission of Rocky Mountain spotted fever, can transmit not only tularemia infection to man, but as Parker and Spencer[10] have demonstrated, such ticks are perfectly capable of hereditary transmission of infection through their eggs to the next generation. Moreover, these authors' experiments indicate that not all infected females transmit infection to their progeny, that the virulence varies and that the infection may die out. Therefore this insect may be considered along with the wild rabbit as permanent reservoirs of infection. This is probably true as to Nevada. The infection is widely distributed within the insect, namely, the lumen of the gut, the cells of the gut wall, in the circulatory fluid, and the feces. The microscopic changes in ticks as noted by Francis[11] was the distention of the epithelial cells of the rectal sac, intestines and malpighian tubes with organisms. The ideal and usual source of infection, however, is inoculation of self or contamination of wounds or skin through dressing wild rabbits, pulling infected ticks from horses, cows or sheep, or in the laboratory performing autopsies on infected animals.

The disease has a seasonal incidence because ticks and flies are transmitters. Likewise, the so-called rabbit season prevails in many states and in some by law. Therefore, in the spring and summer months, the largest number of cases are reported with the exception of certain sections east of the Mississippi River.

BACTERIUM TULARENSE

Bacterium tularense is a small Gram-negative, nonmotile, nonspore-bearing pleomorphic, aërobic organism. Its best growth occurs on blood glucose cystine agar. It is comparatively easily destroyed by heat. Thus, ordinary cooking renders infected tissue safe for eating. The organism may be isolated from the blood early in the disease. The usual laboratory tests are agglutination tests and animal inoculation. The blood serum of a patient suffering from tularemia agglutinates *Bacterium tularense* in varying dilutions in the second week of the illness and should react to its maximum titer in the fourth week. Persistence of agglutinins has been noted for several years and may be diagnostic. Cross-agglutination may be obtained with *Brucella abortus* strains even to the same titer degree. As a rule tularemia serum agglutinates *Bacterium tularense* in higher dilutions than it agglutinates *Brucella abortus.* Suspected serums should be tested against both organisms unless the clinical history and findings are significant. Such positive tests may be confirmed by animal inoculation. Material from the site of infection or from enlarged suppurating glands should be injected into guinea pigs. Confirmatory animal inoculations of suspected spotted liver or spleens of rabbits should also be done by the so-called pocket inoculation method. The inoculated animals should die in a week, presenting on autopsy gross lesions of caseation of regional lymph nodes, small white focal necrosis in the liver and spleen with enlargement. Cultures may be obtained from the blood or from lesions by the use of cystine agar. Final diagnosis is usually made on the agglutination tests or from the gross pathology evident at autopsy of the disease in experimental animals.

CLINICAL MANIFESTATIONS AND PREVENTIVE MEASURES

The disease is not readily transmitted from man to man, if ever at all. The period of incubation is, as a rule, from two to five days, although it might be as short as one day or as long as nine days. The onset is sudden and is characterized by headache, vomiting, chilliness, chills, pains throughout the body, sweating, prostration, and fever. The disease may present four types: ulcers-glandular, oculoglandular, glandular, and typhoidal. There may be a marked leukocytosis and in many cases a skin eruption can be noted. The mortality rate is interestingly very low. Convalescence, however, is exceedingly slow and relapses have been noted even after eight months.

The preventive measures to be undertaken vary with the problem in the community. Thorough cooking destroys the infection in the meat of the rabbit. The use of rubber gloves is decidedly indicated with dressing rabbits, skinning rabbits, or handling infectious or suspected autopsy or laboratory material. The treatment is only symptomatic and there is not at present a definite specific curative or preventive biological or drug agent.

Hooper Foundation for Medical Research.

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DISCUSSION

K. F. Meyer, Ph. D. (The George Williams Hooper Foundation, University of California, San Francisco). Until 1926 tularemia was a comparatively rare disease and it was thought to be confined to the United States. Of recent years, however, it has assumed greater importance. Not only has it been recognized in Japan, but regular epidemics have occurred in the Union of Soviet Socialist Republics. In 1928 over eight hundred cases were reported from the province of Riazan. It is of interest that the hamster was found to be the carrier of the tularense virus. Since over one million hamster skins are sold annually it is quite evident that hunters are liable to become infected and many cases may have passed unnoticed. In general, tularemia may be considered an occupational disease, the majority of the recorded cases having been found among people skinning infected animals.

The epidemic which broke out on both banks of the Ural in the Orenburg toward the end of August 1928 had the following interesting origin: Early in the spring the R. S. F. S. R. Trade Commissariat distributed a pamphlet urging the inhabitants to collect and sell the skins of water rats (*Arvicola amphibius*). Hunting was made easy on account of floods. Some had "suppurating cysts" which burst when the skin was removed. Over one hundred cases—ninety-three men and twelve women—developed glandular or ulceroglandular type of tularemia. The bacteriological diagnosis was confirmed by Doctor McCoy of the Hygienic Laboratory, who declared the Russian *Bacterium tularense* to be identical with the American. So far nothing definite is known concerning the factors causing the epidemic spread among the rodents. In fact, the peculiar common etiology of plague and tularemia, their transmission by rodents with an insect as an intermediary, raises many questions concerning the common nature of the two infections. Phases of this problem have been emphasized by the data reviewed in the paper of Doctor Geiger.

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W. T. Cummins, M. D. (Southern Pacific General Hospital, San Francisco).—The survey and report on tularemia in Nevada by Geiger and Meyer has been a notable addition to the already rather voluminous eastern literature. The presence of the disease in Japan and Russia shows the potentiality of its greater geographical dissemination. To the already large group of about fifteen animals that are susceptible to the disease are added sheep and cattle. It seems probable that the mosquito also may be a vector. In the human being the cutaneous and lymphatic manifestations of tularemia are striking and well-nigh pathognomonic. The oculoglandular and so-called typhoidal manifestations are not so readily interpreted. Serologic examination is our valued support in diagnosis. The guinea pig has contributed its share to the study of another disease. Laboratory infections are peculiarly unfortunate and they have been a deterring factor to more widespread laboratory examinations and study of the disease. The hereditary transmission of the infection in ticks and the chronic disease in the wild rabbit serve to make more difficult the problem of its eradication in the lower animals. The incidence of human infection should be appreciably decreased by the public health propaganda that has detailed the importance of proper protection of the exposed human skin in the handling and skinning of animals.

OTITIS MEDIA—ITS MANAGEMENT AND TREATMENT*

By Clyde E. Harner, M. D.
Long Beach

Discussion *by Robert C. Martin, M. D., San Francisco; Robert S. Irvine, M. D., San Francisco; Orrie E. Ghrist, M. D., Glendale.*

Acute and chronic otitis media probably make up the bulk of ear, nose, and throat practice. It is not surprising, therefore, that the management of these cases varies with every doctor and with the myriad agencies used in treating the various conditions met. Varying results to the patient are obtained which, in the main, must necessarily be good, else one's practice would soon dwindle. Yet so much chaff must be separated from the wheat in selection of methods that it does not seem amiss to mention once more the most common and emphasize the most rational and efficacious methods of procedure.

When we think of the vast number of patients who are deaf or hard of hearing, we must admit that this condition is still most important and far-reaching in its effects, and it behooves us to develop a technique of management which will retain the greatest amount of hearing function. The keynote of this technique should be conservatism, and yet not that "hysterical" conservatism which forbids opening an ear drum until it is ready to rupture, or delays a mastoidectomy until there are intracranial complications. Early incision of the membrana tympani is essential; there are far more deaf people today from delay in opening of the membrane than from unnecessary opening of the same. When there is redness and fullness in the region of Shrapnell's membrane, fever (though mild), pain, and lessened hearing, the drum should be incised, even though there is still a cone of light and the handle of the malleus can be seen. This is, of course, in the acute suppurative or serous otitis. An exception is made in the acute catarrhal otitis (acute exudative catarrh), where there is a fluid level showing through the drum and containing bubbles of air, with little or no fever and no symptoms except a "stuffy feeling." These are best treated by mild inflation. I have never seen any ill results from lancing a drum membrane in the first-mentioned condition; but we all have experienced the train of ill events which sometimes follow, "waiting till the morning to see what will happen." In the influenzal epidemics through which we have passed, it was particularly wise to incise early and then "watch the progress."

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* Read before the Eye, Ear, Nose, and Throat Section of the California Medical Association at the fifty-ninth annual session at Del Monte, April 28 to May 1, 1930.

The widespread use of phenolized glycerin, both by the general practitioner and by the specialist, should be limited to the relief of pain and the very early treatment of the mild beginning congestions of the drum and middle ear. It is true that these conditions can be cleared up many times by the use of warm phenolized glycerin, especially if used in conjunction with treatment of the nose and nasopharynx, and with general measures, such as rest in bed, increased elimination, et cetera. When one thinks of the anatomical structure of these parts, it does not seem that any real inflammation of the middle-ear cavity and eustachian tube can be appreciably affected by an instillation of this mixture against the imperforate drum. Further, when the drum has been opened and large amounts of thick purulent secretion are trying to escape from a small opening, it does not seem the part of good judgment to obstruct the very necessary exit by a thick substance such as glycerin. Its hygroscopic power is nullified by its inability to reach the affected tissues. For this reason, an aqueous or spiritous solution should be used.

A light gas-oxygen anesthesia, whenever available, is the preferable one, although fairly satisfactory local anesthesia can be obtained in most instances by using so-called triple mixture, consisting of equal parts of cocain, menthol, and phenol. However, in markedly congested ears this will not give complete anesthesia even though allowed to remain against the drum for thirty minutes, and the pain from the pressure of the cotton containing the mixture when first applied is sometimes as severe as would be the incision.

OUTLINE OF TREATMENT

The old argument whether abscessed ears should be treated by irrigation or by the "dry treatment" is still to be decided. To my mind there is much in favor of the irrigation method. I do not believe that a mastoiditis was ever caused by a well-advised aural irrigation. On the other hand, when the toxic, irritating secretions are allowed to remain within the canal, they further inflame and lower the resistance of the integument of the drum and also the canal wall, and by their very nature increase swelling and further obstruction of drainage from the middle ear. Soda solution is preferable to boric acid because of its detergent effect and its ability to neutralize the acidity of the discharge. A small soft rubber ear syringe is preferable to other types of irrigators in home practice. There comes a time toward the end of the process, when the discharge has become more mucoid, that irrigations should be decreased or stopped altogether. A little later when even this type of discharge has given way to just a thin secretion and the drum head is receding to normal, a simple dry cotton tampon, changed as often as necessary, seems to hasten resolution; but during the acute stage the ears should be irrigated every two hours during the daytime and once or twice at night.

In my hands the method as advocated by Pratt, of using nothing but cotton tampons against the drum, has not been satisfactory. In the average unintelligent family with poor aseptic conditions it does not seem practicable.

The treatment of the throat and nasopharynx is of almost as much importance as the treatment of the ear itself. Particularly is this true in the case of infectious diseases, including influenza, measles, scarlet fever, etc., and also in the presence of large masses of infected adenoid tissue in the vault of the nasopharynx. It has been my habit to use one of the colloidal silver salts, or an aqueous antiseptic of the nature of metaphen. Oily "drops" should seldom be used in infants' noses. A recent investigator has proved that most of these substances find their way into the lungs of the child and their effect is most deleterious, since oil globules are not absorbed to any extent from the alveoli of the lungs. In addition to this, the nasal mucosa of both infants and adults resents overmentholizing and camphorizing. It is often wise to do an adenoidectomy upon small children even in the face of considerable fever where there is a very large mass of adenoids around the mouths of the eustachian tubes which will not shrink up with local treatments and are holding infectious material against the orifices of the tubes, as would a sponge.

It would seem that there are other agencies in treating acute otitis media, but very few which have proven merits. Among these, I would mention diathermy, zinc ionization, vaccine and various biologics designed to stimulate leukocytosis. There is a place for vaccine therapy in the treatment of otitis media and it should be used where indicated. Also, while many scoff at the use of such agencies as leukocytic extract, I feel very definitely that they raise resistance to the infection by some means, and are sometimes a factor in preventing mastoiditis.

In conclusion, may I state that an adequate comprehension of the basic principles of anatomy, physiology and pathology, after all, is the deciding factor in the sensible management of otitis media.

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DISCUSSION

Robert C. Martin, M. D. (384 Post Street, San Francisco).—Doctor Harner has covered a wide field in this paper and done it so thoroughly it is difficult to generalize about cases of otitis media, as each case is a law unto itself. Fortunately he has laid down broad, general plans of treatment.

The treatment by irrigation is the only practicable one for the average case since the mother or nurse is not trained to properly place and remove gauze wicks which must be done several times daily if it is to act as a drain and not a blocking foreign body.

The use of phenol and glycerin except for the control of pain is greatly overdone. It produces a soggy epithelial débris which offers a rich field for secondary infection. For this reason it should be used for only a brief period.

We have not found oily nose drops detrimental clinically, and do not believe a sufficient quantity is used to cause lung difficulties through aspiration. Our objection is based on their lack of efficiency since they fail to open a nose already clogged by secretion. Aqueous solutions of weak adrenalin or ephedrin have seemed to us more suitable.

Paracentesis should be done early and constitute an incision, not a mere puncture of the drum. For this reason we prefer a light general anesthesia whenever possible. Repeated paracentesis, after a thoroughly done initial one, seem to us usually to indicate an overlooked mastoid. There are, of course, exceptions to this generalization.

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Robert Steele Irvine, M. D. (490 Post Street, San Francisco).—There is one feature which I have observed frequently in the middle-ear infections which Doctor Harner has not stressed. This is the simultaneous occurrence of nasal sinusitis of the same side, particularly demonstrable in the maxillary. This applies both to children and adults, and I dare say that if the doctor had performed his paracentesis under general anesthesia and had aspirated the maxillary sinus at that time, he would have been amazed to note the frequency of the presence of pus or mucopus. Under those circumstances the period of the disease may be considerably shortened by making a small window under the inferior turbinate and following up with shrinking medication. Many cases of chronic middle-ear disease which resist treatment have been materially benefited by this treatment.

In the case of adults the problem is more simple, and it is my routine in every case of nontraumatic middle-ear abscess to investigate and enter the nasal sinuses, particularly the maxillaries.

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Orrie E. Ghrist, M. D. (143 North Brand Boulevard, Glendale).—In small children, after paracentesis has been done and the ear syringed for the first twenty-four hours, I have at times noted the child swallowing during irrigation. This, of course, indicates a patency of the eustachian tube and the ear needs, therefore, no further irrigation.

I also wish to emphasize Doctor Harner's statement that "oils containing menthol and camphor should not be used in the nose and pharynx." Many patients in good health with a normal mucous membrane find camphor and menthol will sometimes irritate the nose. We should, therefore, not use them on the delicate inflamed membrane of a child with an acute otitis media.

Doctor Harner (Closing).—I am gratified to learn that others have discarded the indiscriminate use of phenolized glycerin in acute otitis media where there is profuse purulent discharge. Before the drum membrane has ruptured or has been opened, this is good therapy, but most certainly defeats the purposes of drainage in the presence of excessive discharge. A wide, free incision is essential, as Doctor Martin has stated.

Making a puncture into the maxillary sinuses of children, I am very reluctant to do. In my experience, treatment of the nose by use of a shrinking solution and mild suction is much the better treatment. I have found that these sinus infections are also materially improved by removing the tonsils and adenoids, especially the adenoids. Only occasionally is it necessary to interfere surgically in infections of the sinuses of children.

THE OBSTRUCTING PROSTATE—ITS SURGICAL TREATMENT*

By Nathan G. Hale, M. D.
Sacramento

Discussion *by Wilbur B. Parker, M.D., Los Angeles; Thomas E. Gibson, M. D., San Francisco; Frank S. Dillingham, M. D., Los Angeles.*

In reviewing the literature relating to the major operative procedures for removal of prostatic hypertrophy, with particular study of the two broad groups—suprapubic and perineal prostatectomy, one becomes interested in segregating the facts relating to the efficacy of the two types of operation, and surprised at the marked difference in mortality following prostatectomy in different institutions and in the hands of different surgeons.

It is worthy of some comment that as a rule operative procedures, either suprapubic or perineal, performed in county hospitals and like institutions have a much higher mortality and many more complications than the same operative procedures performed in a teaching institution, surrounded by all technical and educational facilities for having any operative procedure advantageously performed with the lowest possible mortality. However, there is no doubt some truth in the statement that the majority of operations on the prostate are not performed in either of the above-mentioned institutions, charitable or teaching, and for that reason it would seem worth while to investigate the statistics of operative procedures in privately owned hospitals, where no particular attention is paid to specialties but particular attention to maintaining a satisfactory workshop.

REVIEW OF SERIES OF SEVENTY-ONE PROSTATECTOMIES

I therefore wish to review a series of perineal and suprapubic prostatectomies performed at the Sutter Hospital in Sacramento, covering a period of six years and based on a study of seventy-one prostatectomies performed on patients ranging in age from fifty to ninety-five and averaging sixty-one years, forty having had suprapubic and twenty-eight perineal prostatectomies. The remaining three not listed were patients admitted for possible prostatectomy but who expired before operation could be performed. For fairness, from a statistical standpoint, the three patients mentioned have been included. The mortality rate for the seventy-one patients was eight per cent.

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* Read before the Urology Section of the California Medical Association at the fifty-ninth annual session at Del Monte, April 28 to May 1, 1930.

I feel that this résumé is perhaps of more general benefit and will give a better idea of the work done in such a hospital because the series of prostatectomies include different types of procedure. Before investigating this series I was quite certain that most of my work had been perineal and was surprised to find that the larger percentage was of the suprapubic type. Several reasons influenced the choice of the suprapubic prostatectomy. First, it is more popular with the general practitioner who refers the patient. There were a few of these patients whom the attending physician had advised to undergo only the suprapubic operation. In this series of suprapubic procedures there were two patients who, before being referred, had had a suprapubic drainage. If the ischial arches were narrowed, making it difficult to use the perineal retractors, or if the perineum had previously been operated upon for any cause, the perineal procedure was not advised. On the contrary, if the patient had a large hernia, was very obese or was considered a poor surgical risk, perineal prostatectomy was given preference.

Of the forty suprapubic prostatectomies seven were performed in two stages—preliminary drainage, followed by blind enucleation. Four of the seven were necessarily operated upon in this way due to failure of the retention catheter properly to drain the bladder, and one because of an epididymitis which was present on admission. The reason I have not customarily advocated a two-stage prostatectomy is that a retention urethral catheter gives the same result, essentially that of an increase in kidney function, thus making the patient a better operative risk. I do not feel satisfied that the two-stage operation does not lose more by attempting to wall off the space of Retzius than it gains, since it thereby converts a visual operation into a blind manipulative separation of tissue. I further base my conclusions, from another angle, on two operations: one performed a number of years ago in which the preliminary drainage procedure was the cause of pubic periostitis; and the other, an operation on a patient in this group in whom the preliminary first-stage procedure resulted in a collection of pus in the prevesical space which dissected the fascia of the abdominal muscles lying next to the peritoneum, the pus remaining undiscovered and never producing a temperature of more than 99.2. The second-stage operation resulted in death on the third postoperative day, though no shock or symptoms were consequent on removal of the prostate. The autopsy findings were those previously mentioned.

PRELIMINARY PREPARATION

The preliminary preparation of patients in the perineal group averaged thirteen days; in the suprapubic group, between twelve and thirteen days. Postoperative time in hospital, which means the time in the hospital after removal of the prostate, averaged between eighteen and nineteen days for the perineal and between twenty-five and twenty-six days for the suprapubic group. I do not think there should be such a marked difference between perineal and suprapubic postoperative time. I feel that if the number of perineal procedures had been the same the average would perhaps have been more nearly the same.

CHOICE OF ANESTHETIC

The anesthetic of choice for the suprapubic group was nitrous oxid and oxygen. This was particularly true of the early cases, those operated upon in 1924 and 1925. Practically 90 per cent of the suprapubic operations were performed upon under general anesthesia and 10 per cent under spinal or local infiltration. I wish here to state that as an anesthetic of choice for suprapubic prostatectomy, spinal anesthesia is superseding any of the other anesthetics and should have been used more in this series than the records indicate.

In the perineal group the reverse is true of anesthesia. Less than 10 per cent had general anesthesia while 90 per cent had sacral, some being sacral and parasacral. Of this group, sixteen patients were given sacral anesthesia alone, which was effective except in one instance. Thirty-three cubic centimeters of three per cent solution of novocain was used in normal salt, a preliminary hypodermic injection of ephedrin having been given nine patients. The one instance of improper anesthesia was due to faulty technique. The solution was not placed in the canal and it was necessary to resort to general anesthesia. I see no reason for giving spinal anesthesia in this group when a sacral anesthesia is easily given with few, if any, alarming symptoms. The technique is practically as simple as that in spinal anesthesia and quite as efficacious. One might reason that some of the deaths from suprapubic prostatectomy were due to the type of anesthesia given. I have little doubt that one patient who was given a general anesthesia and who expired a few hours after operation, would have had a better chance had local anesthesia been used.

PRELIMINARY CARE

In the preliminary care of these patients, fluids were forced by mouth, a gallon per twenty-four-hour period being the usual intake. The patient was made comfortable. If he was accustomed to wearing heavy underwear when in bed, the same type of underwear was given him. In other words, the habits of the patient of sixty years of age or more were not disturbed or interfered with, either in his style of clothing or the amount or variety of food except in instances where change seemed necessary. The patient was semi-ambulatory. Retention catheters, changed frequently, were always used; and the bladder was irrigated at intervals. Preliminary cardiac medication was used in ten patients, postoperative cardiac medication being used in sixteen. The phthalein test was the principal one used for kidney function, blood urea nitrogen being used for patients with phthalein below 20 per cent after two hours and ten minutes. If the phthalein and blood urea were low but constant and the general condition of the patient satisfactory in the judgment of the surgeon, operation was performed. In the few cases where this was necessary there were no unsatisfactory postoperative results. For all patients who entered the hospital seriously ill from uremic symptoms or from infections of the urinary tract an internist was called in consultation. His assistance proved to be a valuable adjunct.

CONCURRENT COMPLICATIONS

The idea is prevalent that patients who go to public institutions for this type of work are in much worse physical condition than those brought to private institutions. The consensus of opinion is that the mortality rate would therefore naturally be higher. However, it is interesting to compare the patients of this series treated at a private hospital. Two came in practically in uremic coma, two with auricular fibrillation, two with recent attacks of jaundice and chronic gall-bladder symptoms, one a dement, one with a large ureteral calculus and another with a fair-sized kidney calculus. Two were tuberculous.

Of the group which received operation a preliminary diagnosis of the benign enlargement of the prostate was made in sixty-six, and a diagnosis of malignant growth in five, the postoperative laboratory microscopical findings proving twelve to be malignant and fifty-nine benign.

Accordingly, from this rather small series one may form the opinion that patients of this age, regardless of social status, have the same number of complications and serious diseases associated with their prostatic hypertrophy.

POSTOPERATIVE COURSE

The postoperative course of both groups was far from uneventful. Two patients with perineal prostatectomies had secondary hemorrhages. One hemorrhage was caused by the use of a recently advocated bag method of control which, in my hands, was not satisfactory. I have since returned to the procedure of carefully tying all bleeding arteries and veins. The other secondary hemorrhage occurred eight days after operation in a tuberculous patient. Six patients developed epididymitis following operation; four following perineal and two following suprapubic prostatectomy. One developed abscess of the thigh near the site where normal salt had been given and another developed a large carbuncle in the gluteal region. The last-mentioned complication occurred in the patient who had the secondary hemorrhage due to improper use of a perineal hemostatic bag. One suprapubic operation was followed by a thrombosis of the left leg. One pneumonia followed general anesthesia, and one followed local. Jaundice occurred in two patients following a suprapubic operation, both patients, however, having a previous history of jaundice and gall-bladder attacks. In neither instance were stones found by x-ray. In two patients of the suprapubic series there was an auricular fibrillation, present before, and demonstrated after operation. The patients with auricular fibrillation were anesthetized, one under local infiltration and sacral anesthesia, and one under spinal anesthesia.

Out of this group, three deaths followed suprapubic prostatectomy and no deaths followed perineal procedure. Three expired before any operative procedure could be performed, but were potential prostatectomies. The causes of death in the suprapubic group are given to show that the type of operation had nothing to do with the death, with one exception. That patient, eighty-nine years of age, had a two-stage prostatectomy and at the time of the second stage—while reaching for a glass of water on the second postoperative day—fell from his bed to the floor, with the drainage apparatus sutured to the abdominal wall and fastened securely to the bed. This trauma and the manipulation of returning the patient to bed, with the already general serious physical handicaps, resulted in his death.

The second death was caused by an undiagnosed abscess between the abdominal muscles and peritoneum which had collected in that region following the first stage. The trauma resultant at the time of the second stage was not sufficient to cause the abscess to drain in the suprapubic region, but was sufficient to cause an extension of this infected material.

The third death was caused by a cardiac embolus. A general anesthesia had been given.

SELECTION OF OPERATIVE PROCEDURE

The type of operative procedure should be mentioned in order to differentiate the perineal as sometimes advocated from the perineal type of operation that should be done. The blind perineal enucleation of the prostate, in my mind, is more dangerous than any other prostatic operative procedure because not only is the procedure itself difficult to perform, but the end result is necessarily more complicated, due to the proximity of the muscles of urinary control and the rectum.

The usual classical operation of Young, with lateral incisions in either side of the midline in the prostatic capsule posteriorly and enucleation of the adenoma, was performed in fourteen perineal prostatectomies. In the other fourteen the type of incision of the capsule advocated by Hinman was used. Of the two procedures, for a view of the operative field after the prostate has been enucleated, I feel that Hinman's is the better. The probability in the usual Young procedure of leaving a small adenoma, which may later grow and obstruct, is eliminated by this procedure; and if it were possible in all cases to go posteriorly as far as Doctor Hinman advocates, leaving the so-called sphincter region unmolested, I feel that the procedure would be better in every respect. In a few patients, however, due to lack of experience, it has been my misfortune to have had a delayed urinary control result. There is no doubt that Hinman's is a cleaner enucleation and when properly performed the patient has been able to void all the urine normally as early as the seventh or eighth day. This ability I have been unable to find in any of my previous records of prostatectomies, a series of one hundred, performed several years ago.

In the suprapubic procedure the transverse incision advocated by MacGowan was used but once. The usual midline incision has been made, great care being taken to expose the bladder at its highest point near the junction of the urachus before incising, the prostate being enucleated under vision and in most instances the orifice being sutured. In each instance a Pilcher bag had been used with traction and air, prevesical drains, and a large suprapubic tube.

In no case has there been the three-stage operative procedure as recently advocated by Keyes, and in no instance has there been a preliminary vasectomy.

POSTOPERATIVE CARE

As a rule most of the patients had special nursing for two days and nights. The postoperative routine of fluids by hypodermoclysis was always prescribed, at least 1500 cubic centimeters being given. The patient was kept comfortable and the necessary therapeutic measures administered. Very few medicines given by mouth seemed to influence the course of the convalescence. Digitalis, morphin, normal salt, glucose solution intravenously and blood transfusions were of dependable therapeutic value. Irrigation of the tubes and drains was only for removal of clots or obstructions and not for their antiseptic value.

The drainage apparatus in suprapubic prostatectomy has been varied and complicated. Simple drainage methods apparently were the best in my hands. I find that the Connell bottle and the suction apparatus advocated by Barringer are good. The tubes and drains are removed as early as possible postoperatively and urethral catheters inserted early for drainage purposes. These urethral catheters are of doubtful value except as an aid in keeping the patient dry. I feel that their use is one of the causes of the rather high percentage of epididymitis.

UNTOWARD RESULTS

Various untoward results have been observed. A persistent partial incontinence followed a suprapubic prostatectomy of a small fibrous prostate, the patient having multiple strictures of the urethra. The cause of the incontinence may be attributed to the fact that the Pilcher bag was kept distended, creating pressure against the prostatic bed for thirty-six hours. As a rule the Pilcher bag is relieved of pressure and distention within a few hours, and when necessary, pressure is reapplied.

One patient from whom a very large prostate was removed reports that the suprapubic incision has broken down once since leaving the hospital but has healed again. He voids a stream of only fair size and force, which indicates that there is a possible obstruction, either due to a prostatic adenoma not removed or to fibrous bands formed in the region of enucleation. Neither supposition has been verified.

One patient, eighty-two years of age, weighing ninety pounds and having a microscopic diagnosis of carcinoma of the prostate, developed urethrorectal fistula eight days after a perineal operation. This fistulous tract healed without interference at the end of twelve weeks.

Control of urination was delayed by the use of the apparatus for control of hemorrhage, already mentioned, with which I was not familiar. The type of operation in this case was complete enucleation of the prostate as advocated by Hinman.

QUESTIONNAIRES

Sixty-five questionnaires were sent to patients in this series, to twenty-one of which there were no replies; twenty-two had died, seven of carcinoma. In two of these seven, however, the carcinoma was not of the prostate, one being of the rectum and one of the stomach.

Twenty-two replies were had from patients who were living and well, and who had no urinary disturbance; eight stated that they had frequency, which averaged six times per day. Fourteen stated "no frequency." Thirteen get up to void at night, an average of two times, and nine do not void at night. The approximate times when these voidings occur is between 3 and 6 a. m. The size and force of the stream is good in sixteen, medium in four, and fair in two. No burning on urination is reported. There are three with urgency, none with difficulty of urination, and one with occasional dribbling of urine. Nineteen reported the urine as clear, and three as cloudy. Four patients reported they have had epididymitis since leaving the hospital. One of these was a mistaken diagnosis, the so-called epididymitis or swelling of the testicle being a hydrocele. The control of urine was good in nineteen and fair in three. All of the twenty-two report a gain in weight following operation; twenty-one report their general health improved; one reports general health remains the same. Twenty-one report themselves "cured" of prostatic trouble and the one not answered is the case where there has been suprapubic drainage since leaving the hospital, which later closed. All of the twenty-two have been free of serious illness since operation. One reports a small hernia at the site of the suprapubic incision.

CONCLUSIONS

Certain conclusions may be drawn from this study:

Patients of this age, regardless of social status, have the same number of complications and serious diseases associated with prostatic hypertrophy.

The care which the patient receives before operation is very important and cannot be overstressed, but only a few therapeutic aides, properly given, are required.

Epididymitis is a too common complication in this series and could no doubt have been decreased considerably had vasectomy been performed preliminary to prostatectomy, especially since the writer resorted to the early use of indwelling catheters.

The suprapubic prostatectomy is a recognized procedure of merit, but from the nature of the method of drainage the mortality must necessarily be slightly higher. However, the mortality from preliminary treatment or complications of other organs cannot vary a great deal from that of the perineal.

The type of operative procedure performed on the properly prepared patient will have the same end result, but the logical operative procedure should be the perineal, especially when a method has been satisfactorily perfected for the complete enucleation of the prostate and for obviation to a greater degree of the danger of destruction of the transversus perinei.

Medico-Dental Building.

DISCUSSION

Wilbur B. Parker, M. D. (527 West Seventh Street, Los Angeles).—Doctor Hale's review is refreshing in its sincerity and is to be commended for its statistical perfection. I believe it is well that surveys such as this be made in all hospitals, and no doubt if this were done we would be bewildered by the conflict of opinions which would result.

With reference to this series and particular reference to numerous other recent reviews and presentations of so-called one hundred consecutive cases, I wish to call to your attention one significant observation. This constitutes an omission on the part of contributors to call to your attention several of the most common complications of an obstruction to the urinary outflow, namely, the posterior median bar formation and generalized contracture of the vesical neck. They are consistently found in all types of obstructions and are more common in the fibrous or prostatic atrophy type and must be relieved by special methods, whether approached by either perineal or suprapubic routes. Therefore, it is inconceivable that any individual could select a series of one hundred consecutive cases of obstructing prostates and relieve them by their reported method without some attention to the often involved bladder neck.

Further, none of the great clinics in this country have been able to present a review of this character nor have they advocated that the relief of an obstructing prostate be entirely confined to one method of approach. There is no doubt that there are types of obstructing prostates which occur in which the proper procedure is better performed by the perineal route than the suprapubic route, and it is equally true that the suprapubic route is at times superior to the perineal route. I personally do not believe that the mortality rate is increased by either method, granting that the operator is properly trained in his work.

I believe there is no necessity for any of the methods to be characterized as "blind operations," and I have yet to experience a second-stage procedure that could not be made a visual operation and with greater ease in those cases in which the space of Retzius had been properly cared for in the initial cystotomy.

I wish to commend Doctor Hale upon bringing to your attention the matter of vasectomy for the prevention of epididymitis. By this simple procedure the patient as well as the surgeon can be saved a vast amount of pain and anxiety.

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Thomas E. Gibson, M. D. (450 Sutter Street, San Francisco).—In the discussion of his results with the two operations of suprapubic and perineal prostatectomy, Doctor Hale exhibits a palpable frankness and absence of bias which deserves commendation. Unfortunately, it is seldom that one finds a urologist who is expert in both types of operation. Although the type of operation is usually of little importance, there are a few conditions where there are very definite indications for either the perineal or the suprapubic approach. Doctor Hale has mentioned some of these indications. The perineal approach is the only logical one for the radical removal of prostatic malignancy, and in certain cases of hypertrophy associated with infection a seminal vesiculectomy as well as a prostatectomy can be advantageously performed. The preliminary preparation in Doctor Hale's series averaged about thirteen days, showing that he is alive to the importance of thorough preparation. This is the greatest single factor in the successful treatment of prostatic hypertrophy. The operation is but an incident in the course of treatment. Liaison with an internist is almost indispensable in these cases. Spinal anesthesia has come into personal favor almost to the exclusion of other forms of anesthesia. With the preliminary use of ephedrin I believe it to be as safe as sacral and parasacral anesthesia, easier to give and more certain in its action. Approximately 17 per cent of Doctor Hale's cases proved to be malignant. This coincides with statistics from other sources. One of the most annoying postoperative complications of prostatectomy is epididymitis. Statistics show an incidence varying from 25 to 50 per cent, so that vas ligation or resection before or at the time of operation is a good prophylactic measure. The most serious immediate complication of prostatectomy is hemorrhage. Of the many procedures advocated for its control the one which deserves most attention is adequate exposure of the field and control of bleeding by ligature or suture. The use of packs or rubber bags should be avoided except as a last resort because of the discomfort they cause, and because they delay wound healing. For the last few years I have been applying this principle to perineal prostatectomy and performing a complete plastic closure of the wound, with the result that primary union without drainage through the wound occurs in the majority of cases with distinct shortening of convalescence.

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Frank S. Dillingham, M. D. (548 South Spring Street, Los Angeles).—As Doctor Gibson has said, "Operation is but an incident in the course of treatment." Each patient must be carefully studied to determine how long preoperative treatment must be continued to insure maximal clinical improvement as shown by blood chemistry, urine, heart, lungs, and kidneys. In the suprapubic operation it is important not to be rough, to protect the space of Retzius and the perivesicle tissues by sutures as suggested by Doctor MacGowan, or such care in handling as not to traumatize and infect these parts. Doctor Peterkin's suggestion for draping the patient is very useful, as the surgeon can rapidly insert one or more fingers of his left hand in the patient's rectum to steady or lift the prostate gland. If the proper line of cleavage is followed, the tumor may usually be gently enucleated in one piece with the least amount of damage to the bladder neck and urethra and with only a moderate amount of bleeding. If there should be severe hemorrhage, prompt ligature of the bleeding vessels, which are found usually at "4 and 8 o'clock," is better than the use of bags or packing. I close the bladder with a double row of chromic sutures around a No. 30 F. rectal tube with eyes at end and sides, and a No. 8 F. catheter attached to the side. The muscles, fascia, and skin are approximated, but the sutures are not tied too tightly, as there always is some increased tension for the first two or three days. A Penrose rubber drain, without gauze, rolled not larger than a cigarette, is placed at the upper and lower angle, but not forced into the space of Retzius. A continuous drip of normal salt or Thiersch solution is started in the No. 8 F. catheter and out by the larger tube, which prevents clots and tenesmus. The oozing is usually stopped in six to twelve hours, the patient being dry and comfortable all the time.

Later, if the urethral catheter does not enter the bladder at the first try there is less danger of causing an epididymitis if a wire stylet or catheter guide is used to lift the end of the catheter out of the prostatic bed into the cavity of the bladder.

In the last few years the perineal operation has been improved, the gland removed usually in one piece, and in selected cases the capsule, muscle and fascia closed, saving the patient several weeks of convalescence. The perineal route is the only logical approach when early malignancy or tuberculous infections exist or where seminal vesiculectomy should be performed at the same time. I have used spinal anesthesia in all prostatic and bladder surgery since 1903, and am glad to see the pendulum swinging back to its more popular use.

CARE OF CALIFORNIA'S MENTALLY SICK[*]

SOME PROPOSED CHANGES IN THE LUNACY LAWS

By George G. Hunter, M. D.
Los Angeles

At a meeting of the state council of the California Medical Association in San Francisco on January 31, the writer presented certain amendments to the California lunacy laws. These proposed amendments were recently sponsored by the Southern California Psychopathic Association and by many of the Los Angeles physicians interested in the matter. The Council very generously approved the amendments and instructed the California Medical Association Committee on Public Policy and Legislation to aid in their passage.

NEED OF BETTER LUNACY LAWS

For a number of years medical men in Southern California whose work has familiarized them with the conditions under discussion, as they obtain at the present time, have felt the need of a general revision of the California lunacy laws not only to better coördinate and simplify and to remove unnecessary legal and administrative delay, but to clarify and emphasize the fact that insanity and mental sickness is after all a problem in the domain of medical science and ought to have no more to do with legal machinery than is absolutely necessary to safeguard the constitutional rights of the individual. The increasing number of the mentally sick gives a special significance to this problem.[†]

PROGRESS SLOW BUT STEADY

Fortunately there is being built up all over the country by a slow, educative process a considerable group of intelligent, influential citizens who are in sympathy with this concept. However, the legal machinery and the attitude of the average uninformed man still leaves much to be desired. One needs but little observation of the daily grind of many of our lunacy courts and the jury hearings in lunacy trials to realize the vast amount of suspicion and distrust still held toward the physician, and the profound ignorance in the minds of many lay people regarding the whole matter. That the determination of sanity, the disposition of the insane, their treatment and management should be submitted to final decisions of lay persons in the form of our usual juries must seem to scientific medical men or intelligent lay thinkers not only an absurdity but a travesty upon justice. Some attempt has been made to change the practice of jury hearings in lunacy matters, but the fear on the part of certain groups in society that it would be an opening wedge against the jury system as a whole has so far thwarted reform in this direction.

LUNACY LAWS NEED REWRITING

The problem of entirely rewriting our lunacy laws to bring them into harmony with the intelligent public trend toward mental hygiene and the scientific, humane handling of the mentally sick is a task of considerable scope and will require careful study by some authoritative body or groups thoroughly familiar with all phases of the work. In California the most intelligent approach to such a study was made last year by the committee conducting the state mental hygiene survey, and it is to be hoped that as a result of this study some constructive, well thought out, coördinated system may be inaugurated.

In the meantime some amendments to make the present laws a little more flexible, a little more humane and a little more in harmony with the ideas expressed above seem very desirable to many of the medical men who are obliged to meet their daily problems under the present law.

AMENDMENTS NOW SUBMITTED

Our southern California group of citizens who are interested in this work have five or six measures which it is hoped will be favorably acted upon by the legislature, which is now in session, and it is to these amendments that the Council of the California Medical Association gave its approval.

STIGMA OF IMMEDIATE ARREST—WHY THIS HUMILIATION?

Section 2168 at present provides arbitrarily that upon issuance of a warrant by a judge the patient shall be arrested and taken before a judge of the Superior Court of the county for a hearing and examination on such charge, and that upon arrest the arresting officer shall detain such person until an examination and hearing can be had.

We wish to amend this section by insertion of the clause that "pending examination and hearing such order may be made relative to the care, custody, or confinement of the alleged insane person as the judge shall see fit." We believe this modification will enable the court to soften the experience incident to lunacy proceedings in many cases and will be a welcomed opportunity to many families to provide their own service under conditions of their own choosing until final disposition is made at the time of the court hearing. Under present conditions many patients awaiting commitment or adjudication of their cause, or authority for custodial care in private institutions, are of necessity taken from their homes or from private sanitaria in which they are receiving treatment to public places where they are treated little better than prisoners, with unnecessary humiliation and often with unfavorable influence upon their illness.

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[*] This is a discussion of a report on this matter by a committee, with headquarters in Los Angeles.

[†] Editor's Note.—The "World Almanac," edition of 1931, page 451, gives the total number of patients in state hospitals for mental diseases. The totals for the United States by different census decades are: Year 1880 was 31,973 inmates; year 1890 was 67,754; year 1910 was 159,096; year 1922 was 222,406; year 1928 was 264,226 inmates.

For California the totals are: Year 1880 was 1851 inmates; year 1890 was 3410; year 1910 was 6560; year 1922 was 11,055; year 1928 was 13,318 inmates.

These figures are indicative of the magnitude of this important problem. See, also, special article on "California State Mental Hygiene Survey" in California and Western Medicine, December 1930, page 872.

CRUELTY OF PUBLIC HEARINGS—WHY NECESSARY?

To Section 2169 we are suggesting an additional provision as a subsection that will in many instances avoid a public hearing altogether. Under the present section the public hearing is mandatory for commitment in all cases. The witnesses are all examined in public, the alleged insane person must himself be present and not only must he hear the charge and the evidence discussed in open court, but the family of the afflicted and his friends must go through the often heart-rending and embittering experience of narrating events in open court that should be sacred and confidential to the physician and the judge.

This amendment, to be a new Section 2169a, provides that

> unless the alleged insane person specifically demands a hearing in open court, or such demand is made in behalf of the alleged insane person, the judge, after receiving a certificate of insanity as provided in Section 2170, showing the patient has been examined by two medical examiners and pronounced insane, and having heard such other evidence as he may deem sufficient, may abrogate the provisions of the above section and all other conflicting sections at his own discretion, and if satisfied that the alleged insane person is dangerously insane he may immediately, either in or out of court, issue an order for the commitment of such person to an institution licensed for the custody and treatment of the insane; or, if the person is not found to be dangerously insane but requires medical treatment for his mental or physical disease, he may commit him to the care of a qualified physician, such as mentioned in Section 2167a, holding a certificate from the Superior Court and the Department of Institutions. If, however, it appears that such insane person is harmless and his relatives or a committee of his person are willing and able properly to care for him at some place other than such institution, upon their written consent the judge may order that he be placed in the care and custody of such relatives or committee; provided, however, that prior to any procedure under the above provision notice of intention to so proceed shall be served personally upon the person alleged to be insane at least one day prior to the contemplated action. Notwithstanding the foregoing provision, if the judge to whom application is made be satisfied from any statement contained in the papers in the proceedings, or from inquiry, that personal service of the notice on the alleged insane person would be ineffective or detrimental to such a person, he may, in his discretion, dispense therewith; and he shall dispense therewith, if the qualified examiners state in writing under oath, that personal service upon the alleged insane person would in their opinion be detrimental to such person. However, whether such personal service on the alleged insane person be dispensed with or not, and the petition be made by a person other than the wife, husband, father, mother or other nearest relative, such notice shall be served upon such wife, husband, father, mother or other nearest relative of such alleged insane person, if there be any such nearest relative of such alleged insane person known to be within the county; if not, upon the person with whom such alleged insane person may reside, or at whose home he may be, or, in their absence, upon a friend of such alleged insane person; and if there be no such person or persons, such service shall in writing be dispensed with.

The above provision is practically the same as has been found useful in both New York and Massachusetts. It does not in any fundamental way remove the patient from the protection of the courts. The method is entirely optional with the judge, but we believe it does provide means for authoritative control over patients who are quite able to pay their way and to whom the present method of being taken into a psychopathic hospital or other place of detention with a public hearing after four or five days of unnecessary contacts, is objectionable and unnecessarily humiliating. We believe it will tend to reduce the frequency of jury trials and that it will also reduce the expense to the county of handling its insane.

STATE DIRECTOR OF INSTITUTIONS SHOULD BE A PHYSICIAN

An amendment to 366 of the Political Code is being sought providing that the director of institutions shall be a physician. Such an amendment hardly needs discussion. Prior to the creation of the director of institutions in California the law provided that the general superintendent of state hospitals should be a physician, and such is the case in most other states. With our state board of control passing upon all matters of business policy and money expenditures, the medical aspects of the work are altogether paramount and it would seem reasonable and proper that such provision should be made as provided in this amendment.

VOLUNTARY ADMISSION TO HOSPITALS SHOULD BE MADE POSSIBLE—ELIMINATE STIGMA

Section 2185b at present provides for voluntary admission of persons suffering from mental disease to any of the state hospitals, except Folsom State Hospital, for care and treatment subject to approval of the superintendent of said institution.

An amendment to this section is asked making it legal for any county psychopathic hospital to accept voluntary patients under similar conditions, subject to the acceptance by superintendents of such hospitals. There are several psychopathic hospitals in the State of California where this is being done at the present time, but in Los Angeles County, the largest of them all, the County Counsel has ruled that such admission for confinement behind locked doors is illegal and, therefore, the facilities of the Los Angeles

County Psychopathic Hospital are denied to those seeking it of their own volition. This provision will make available the resources of such psychopathic hospitals for diagnosis and helpful service to many patients whose needs are as urgent and whose claim upon society is as great as is the case of the unfortunate who suffer from other conditions of ill health and who now enter freely into the general hospitals for relief. Most of such voluntary patients are not committable under the present law.

HOSPITAL SUPERINTENDENTS SHOULD BE LICENSED PHYSICIANS

To Section 2152 an amendment is being asked striking out that portion of the section providing that the medical superintendent of the Patton State Hospital must always be a homeopathic physician but who must in other respects possess the same qualifications as other medical superintendents. Such amendment would leave the matter of the selection of the superintendent of Patton State Hospital entirely optional with the board or department of institutions and would make available for that position a qualified physician from any school with the same qualifications as apply to all other state hospitals. We believe that conditions prerequisite to the appointment should be determined entirely by the physician's qualifications rather than by the school from which he graduated. As a matter of fact, two of the present superintendents of California state hospitals are graduates of homeopathic schools and ably discharge their duties.

USE OF WORD "APPREHENDED" INSTEAD OF "ARRESTED" REMOVES STIGMA OF "ARREST"

A new provision is being proposed that in all sections relating to the apprehension and commitment of persons alleged to be insane there be substituted the word "apprehended" wherever the word "arrested" appears. The merit of this proposal is so self-evident that it needs no comment. It is only one step further in removing the stigma in situations where the state has to deal with its mentally sick.

COMMENT

Believing as we do that these measures are primarily in the interests of a kindlier and more efficient administration of scientific service to the mentally sick by those of the profession whose activities are in this particular field, we feel that the profession at large will want to assist in our endeavor. The support of the California Medical Association and its official journal, in enlisting the sympathetic and active support of the medical men throughout the state is greatly appreciated. There ought to be no opposition to these amendments. They can in no sense be considered controversial, and if they are defeated it will simply be through lack of support and effort on the part of those citizens whose knowledge of these problems should place upon them special responsibilities in bringing about a better state of affairs.

910 Pacific Mutual Building.

RADIATION THERAPY OF CARCINOMA OF THE RESPIRATORY TRACT*

REPORT OF CASES

By Orville N. Meland, M. D.
Los Angeles

Discussion *by H. J. Ullmann, M. D., Santa Barbara; Fredrick H. Rodenbaugh, M. D., San Francisco; Alfred C. Siefert, M. D., Oakland.*

Any therapeutic attack on malignancy of the respiratory tract is surrounded by many difficulties, of which the first is accuracy in diagnosis, since the parts involved are frequently inaccessible to sight and touch. The diagnosis must then be based on a careful clinical history and x-ray studies, as biopsy cannot always be carried out. Furthermore, most patients coming for aid have used home remedies for a long time or they have been treated as tuberculosis suspects before the true nature of their disease has been seriously considered. During the last decade, however, the more frequent use of the direct laryngoscope and the bronchoscope has simplified the problem, since they alone give a true visualization of the pathologic condition and enable one to obtain tissue specimens to verify clinical findings.

For purposes of brevity and discussion we will not take up mediastinal growths in this paper. We will discuss the problems involved in treating lesions in the larynx, trachea and bronchi, and metastatic lesions in the lung itself.

CARCINOMA OF THE LARYNX

Most of the older literature on carcinoma of the larynx deals with its surgical relief. In recent years, however, irradiation has had many advocates. The consensus of opinion at present among laryngologists is that the early intrinsic variety should be treated surgically by means of laryngofissure or by total laryngectomy. Indeed, the work of St. Clair Thomson of London and James McKenty of New York shows that a high degree of curability is attained by these methods. Extrinsic carcinoma and intrinsic carcinoma, associated with metastasis to the regional lymph nodes, have been relegated to the radiologist, but invariably the results have been palliative rather than curative. The literature makes mention of some five-year cures of laryngeal carcinoma from x-ray and radium therapy alone. Soiland has had under his observation two patients that have passed the ten-year period; these were treated with the old irritating steel radium needles, placed within the larynx, and are ample evidence of the value of irradiation in selected individuals. Of course, the majority of the patients we have seen have been terminal cases, but even in the early intrinsic cases where operation is refused the results have been largely palliative. In the advanced cases no great improvement could be expected.

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* From the Soiland Clinic, Los Angeles.

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What were the causes of failure in some of the early cases? Close analysis reveals that the following points must be considered:

1. *The Resistant Type of Cell That is the Basis of the Growth in This Locality.*—These tumors are squamous-cell carcinomas and experience has shown that they are extremely resistant to irradiation, but, on the other hand, they do at times succumb to large doses. However, the effects of such doses on the normal structures are not always favorable. Cartilage is quite susceptible to irradiation injury, especially where there is an associated infection. When this is the case, a chronic chondritis with edema, and pain and sloughing of the tissues ensues, which is disconcerting to patient and physician alike.

2. *Imperfect Distribution and Calculation of Dosage.*—Too often we try to rely on one type of irradiation which, if pushed to the limit of skin tolerance, gives a dosage which falls short of eradicating the pathology. The classic work done at the Memorial Hospital in New York by Hayes and Quimby shows that for squamous-cell carcinomas the necessary dosage is not one erythema dose, but several erythema doses, varying from five to eleven. This requires the use of different types of irradiation distributed through multiple ports. A combined external irradiation obtained by both high voltage x-ray and radium packs over the same portals, supplemented by interstitial radiation from platinum filtered needles of low intensity or gold radon implants, is necessary to satisfy these essentials. By these methods a proper dosage is obtainable which will eradicate hitherto resistant tumors.

3. *Relying on Irradiation Alone.*—As radiologists, we do not call in our confrères often enough to help solve our problems. When an associated infection with edema is already present, irradiation is practically certain to fail. A tracheotomy will be of immense aid, for it will put the parts at physiologic rest and will insure adequate drainage. The patient can then breathe with no fear of impending suffocation while under intense therapy.

COMMENT

These are, then, the points we must consider. If we bear them in mind we will improve our results, especially if we are fortunate enough to work in conjunction with a good laryngologist and bronchoscopist.

In the early intrinsic type of case where laryngectomy is refused, a new technique has been recently evolved. Harmer of London has described an operation that he combines with radium irradiation, which has been very successful over a three-year period. He removes a window of cartilage from the lateral walls of the larynx, using great care to avoid perforating the mucous membrane. Into the defect thus made he places platinum filtered one-milligram needles of radium which remain *in situ* from five to seven days, and which irradiate the growing base of the tumor and result in a prompt response and gradual disappearance of the malignant cells. The advantages of this method are: (*a*) It does away with troublesome chondritis seen after interstitial radiation within the larynx or heavy external irradiation. (*b*) It does not mutilate the patient, but gives him a good speaking voice. (*c*) Where it is not wholly successful it does not prevent laryngectomy nor does it make this more difficult later on.

The procedure will not be universally adopted, since very few workers have radium available in needles of the proper length, dosage and filtration, but the patient should be informed of the method so that if he is financially able to take advantage of it he can.

CARCINOMA OF THE TRACHEA AND BRONCHUS

Carcinoma involving these structures is not a surgical condition. Its recognition lies with the bronchoscopist and to him we owe the early diagnosis through direct exposure and biopsy. Except for some palliation by the use of opiates, the therapy must rest largely with the radiologist. Surface irradiation by high voltage x-ray and radium packs will undoubtedly have a retarding effect on the rapidly multiplying cells, but adequate dosage cannot be obtained in this manner alone. We must, then, fall back on direct implantation of needles containing the salts of radium or the gold seeds of radon through the bronchoscope. Of the two methods of implantation, the needles, although giving a better and more uniform irradiation, are the least desirable because of the anchoring threads which extend into the mouth and which lead to an irritating cough. Gold implants, on the other hand, are more easily placed and are not followed by any complications. It may be necessary to repeat this procedure after three or four months, but it secures for the patient comfort as no other recognized method can.

REPORT OF CASES

Below are the histories of two patients in whom excellent palliative results have been obtained. The patient with carcinoma of the bronchus has done remarkably well.

Case 1. *Adenocarcinoma of Trachea.*—Mrs. W. Age, fifty-five. First seen February 9, 1929. For two years she had had shortness of breath and has been treated by ten physicians for "heart disease." She had a rasping respiration and such a marked dyspnea on slight exertion that she was hardly able to walk across the room. She then consulted her family physician, who suspected some tracheal disturbance and referred her to Dr. Simon Jesberg for bronchoscopy. A malignant polyp with napkin-ring infiltration was discovered above the bifurcation. The polyp was removed and the patient was referred to us for irradiation. A course of high voltage x-ray was given over the involved area and she was comfortable for eight months, when dyspnea and substernal pain recurred. Another bronchoscopic examination showed a moderate stenosis, but the walls of the trachea were smoothly healed and there was no bleeding on manipulation. Some of the tissue was curetted out by Doctor Jesberg, after which another course of x-radiation was given. Relief of precordial oppression followed, with a gain in weight of twelve and one-half pounds. At present the patient is very comfortable.

Case 2. *Adenocarcinoma of Right Bronchus.*—Mr. B. Age, sixty-one. First seen December 7, 1927. In March of 1927 patient had a pneumonia which was complicated by a pulmonary abscess in the right lower lobe. Bronchoscopic examination by Doctor Jesberg at this time failed to reveal anything but an inflammatory condition. As the patient was getting no better, he went to the Mayo Clinic where another bronchoscopic examination showed that a carcinoma was obstructing the right lower bronchus, and he was directed to have some x-radiation. He returned to his home in Nebraska, where Doctor Tyler of Omaha gave him a course of high voltage x-radiation; and on his return to California in December we gave him another course. He gained a little, but was not very strong. Following this, radium needles of ten milligrams each were plunged into the growth by Doctor Tyler on two occasions and by us on one occasion, at intervals of two months. He has regained his old strength and he now weighs one hundred and seventy-six pounds, which represents a gain of forty pounds. The last bronchoscopic examination revealed only a little granulation tissue at the point of the original growth. Except for a slight cough with mucoid expectoration, he considers himself in good health. In this patient the combined use of surface and interstitial irradiation has been of great value, as it is now almost three years since the original growth was discovered.

CARCINOMA OF THE LUNG

Primary malignancy of the lung is of two types: one grows from the alveolar epithelium, the other from the epithelium lining the bronchi, and hence called bronchogenetic. The location of these two kinds of tumors is found in different portions of the lung, since the alveolar is peripheral while the bronchogenetic is found at the hilus. The latter is sometimes confused with the mediastinal tumors encroaching upon the hilus. From a histologic viewpoint some of these are endothelial in origin. The response to treatment of these primary tumors is radically different; the alveolar carcinoma is remarkably resistant and the prognosis is correspondingly poor. On the other hand, tumors in the hilus area are quite sensitive, especially the endotheliomas. What appears at first a hopeless condition often disappears after a thorough course of irradiation, so that all should be given the benefit of the therapeutic test. Inasmuch as these patients are septic and have an associated lung suppuration from occlusion of or pressure on the bronchus, bronchial drainage by bronchoscopic suction carried on in conjunction with irradiation may increase the favorable responses. In reviewing our records we have several patients with hilus tumors who have successfully passed the five-year period. Their bloody, purulent expectoration has disappeared; they have gained weight, and have again become useful members of society. However, in all of them the diagnosis is clinical and based on radiological evidence and not on a histologic basis. A typical history is given below.

W. E. Male. Age, forty-seven. Seen May 1926. Referred by Dr. C. C. Browning. For four months had a severe sore throat, but two months ago he noted pain in chest. During that time he had no temperature, but he had a cough which was aggravated when recumbent. He had had a rapid pulse. Four weeks ago he began to expectorate a great deal, but when the sputum was examined no tubercle bacilli were found. His normal weight was 165 pounds a month ago; now 125 pounds.

Examination.—Physical examination was negative except for dullness and absent heart sounds in left base.

X-ray film shows tumor mass in left lower lobe.

Patient was given a thorough course of high voltage x-ray and gained twenty pounds in six weeks. Cough disappeared and his strength returned. At present he is living and well, with no evidence of disease—four years after radiation therapy was instituted.

METASTATIC MALIGNANCY OF THE LUNG

Every one of us has seen patients with deposits in the lung secondary to carcinoma or sarcoma elsewhere. In patients of this group, irradiation has been of little avail. Failure is attributed to the cachexia which is present and to the extensive involvement in other organs which lowers the individual's resistance. Unquestionably, some of the nodules are sensitive to irradiation, but the technique as used at present may not be proper. Kolodny reports a case of bone sarcoma in whom metastatic areas in the lung have disappeared completely after irradiation and this patient has remained well for over two years with no recurrence. Likewise, Burnham, in a personal communication, says that he has had a patient under observation for many years who had an apparently hopeless metastatic involvement of both lungs and in whom the malignancy disappeared completely after applying fifty milligrams of radium at a time for twenty-four hours through multiple ports on the chest over a period of thirty days. Under this slow irradiation technique there was no general reaction, but a gradual improvement on the part of the patient. Present-day methods of intense x-radiation overwhelms the patient and he frequently loses ground. Ullmann, who has done much work in the field of lead therapy, combines chemotherapy with irradiation and has been able to show remarkable retrogression in the type of individual under discussion. Possibly further work along these lines with other less toxic products combined with a slow mild gamma or x-radiation may give the desired effects.

SUMMARY

In conclusion, we feel that in carcinoma of the respiratory tract, accuracy in diagnosis is the first essential for improving irradiation results. A biopsy in laryngeal and bronchial carcinoma is necessary to determine the type and to compute the amount of radiation that experience has shown is necessary for eradication. More frequent resort to a tracheotomy will give greater palliation in the advanced cases, and it will also enable the radiologist to give adequate dosages which otherwise must be omitted in the absence of drainage.

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DISCUSSION

H. J. Ullmann, M. D. (1520 Chapala Street, Santa Barbara).—I was much interested in the part of Doctor Meland's paper referring to malignancy of the lung itself. I believe that everyone with malignancy of the lung should be given the benefit of thorough radiation, not in one large dose, but spread over a considerable period of time so as to produce no roentgen sickness or other deleterious effect from the therapeutic agent. While the percentage of cures will be very small, some patients will be definitely helped. Doctor Kirkland spoke along this same line when he visited the meeting of this association a year ago. Between two and three years ago a patient was referred to me for malignancy of the lungs proper, with a request from his referring physician that as the patient was feeling quite well, he not be made sick by any procedure. At this time the symptoms were entirely those of cough and mild dyspnea. He was given thorough radiation spread over a considerable period of time, and after a rest of a month to six weeks the entire course was repeated. His cough and dyspnea disappeared, and he is apparently free of his disease after a period of practically two years. I trust Doctor Meland's paper will be widely read, for it is essential that physicians who see these unfortunate patients should know that under proper treatment a small percentage may be cured, and a still larger percentage benefited.

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Fredrick H. Rodenbaugh, M. D. (490 Post Street, San Francisco). — Any improvement in technique which will be helpful in the types of cases described by Doctor Meland is of interest because of the small number of cures in this group as a whole, and the relatively radio-resistant type of cell so frequently encountered. The results in general have developed an extreme degree of pessimism in the general profession.

There is in the laryngeal group some promise in the newer technique of using large packs of radium with high filtration, and there has been a distinct improvement in results from this comparatively new procedure. Analogous tumors of the upper respiratory tract have shown regression with use of such technique, that previously had failed to respond favorably.

Improved results will probably be noted in lesions of the upper respiratory tract, but the response of similar lesions of the lungs with the same methods, in our experience, has been most discouraging.

The lymphoid tumors and sarcomas, excluding the extensive metastases, show the greatest regression and patients remain free from symptoms for a relatively long period of time; but with the carcinoma we have only noted mild regressions of rather short duration from external radiation.

I personally feel that marked progress is doubtful from external radiation, but with the development of bronchoscopic technique and the use of massive doses of radium, there has been some promise in selected cases within the range of instrumentation.

I endorse Doctor Ullman's views that the profession at large should know that with proper radiation a definite number of patients can be relieved of symptoms for long periods of time, and a marked palliation given to a still larger number of otherwise hopeless patients.

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Alfred C. Siefert, M. D. (Merritt Hospital, Oakland).—Doctor Meland's essay has been of particular interest to me because of its note of encouragement and optimism in the treatment of carcinoma of the respiratory organs.

For my brief discussion I am going to pick out the primary bronchopulmonary carcinomata and the malignant metastatic neoplasm of the lung. The primary carcinomata have been to me a source of great dissatisfaction both as to diagnosis and treatment. It is not an uncommon condition. During the current year I have seen and have been consulted on five such cases. That is a good many to see in a purely private practice. Sometimes the diagnosis is ridiculously easy, at other times the condition is confused with pulmonary tuberculosis, abscess, and empyema. I made all these mistakes on a single case in succession, which finally at autopsy—after thoracotomy with evacuation of great quantities of stinking pus—proved to be a bronchial carcinoma.

Three patients I have recently treated by means of short wavelength roentgen radiation without even palliative success. Two are dead—bronchial carcinoma—another will be soon. Degeneration centrally of the tumor with formation of a fatty substance similar to that found in a dermoid or sebaceous cyst should not be booked on the credit side of radiation therapy or chemotherapy; it takes place in untreated tumors as well, and the tumor grows merrily on at the periphery. Infection or hemorrhage by erosion of a large vessel is frequently the direct cause of death in a disease which, according to my experience, lasts on the average one year from its probable inception.

Hemorrhage was the cause of death in a patient about whom I was recently consulted and whom I advised should be taken to the Memorial Hospital, New York, to be treated with radium radiation in large amounts percutaneously. Homogeneous percutaneous gamma radiation with large amounts of radium is my hope for the future.

Metastatic malignancy of the lung I have hardly attempted to treat in earnest hitherto. These patients are usually so miserable from the extreme dyspnea that at most I have given a few consolation doses, and allowed them to die in peace. Euthanasia has usually been accomplished with liberal use of narcotics and death has followed in a few days after diagnosis of the condition.

Now, I am not a pessimist in the treatment with radiation of all carcinoma and even less in cases of thoracic neoplasm in general. I believe these patients should always receive diagnostic radiation therapy, but I cannot help, because of my own many sad experiences, but be discouraged in treatment of carcinoma of the bronchi and lungs.

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Doctor Meland (Closing). — The purpose of the paper is to direct attention to what irradiation does occasionally accomplish in malignancy of the respiratory tract. Failures are common, but the brilliant results which are seen at times justify the use of irradiation. What the future has in store is problematic; whether the use of massive amounts of highly filtered radium externally, or the implantation of radon seeds, will give more hope, can only be determined after a few years. However, I feel as Doctor Ullmann, that thorough irradiation spread out over a period of time will give a few cures and a great deal of palliation.

ABDOMINAL ALLERGY IN INFANCY*

By Henry E. Stafford, M. D.
Richard G. Watson, M. D.
and
Lawrence R. Jacobus, M. D.
Oakland

Discussion *by William Palmer Lucas, M. D., San Francisco; Albert H. Rowe, M. D., Oakland; Ralph Bowen, M. D., Memphis, Tennessee; Edward S. Babcock, M. D., Sacramento.*

Colic, as a diagnosis, is unsatisfactory and inadequate. However, it describes a group of symptoms to which no other term seems quite applicable, *i. e.*, that of a baby flushed from crying, irritable, hypersensitive, at times eructing or expelling flatus, sometimes vomiting. Such a picture is as common as the underlying cause, and appropriate treatment is varied.

RECOGNIZED CAUSES OF COLIC

Supplementary feedings or an adequate formula will suffice in relieving the majority of colicky infants. The removal of fat or carbohydrate to a quantity which is not in excess of individual tolerance will bring results in another large group. Omission of a daily enema or suppository and the overhandling by an anxious mother is often all that is needed. Incision of an abscessed ear, freeing of a urinary tract from infection and, more rarely, surgical intervention because of an acute appendix, intestinal obstruction or incarcerated hernia is necessary.

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To recapitulate—underfeeding, overfeeding of one or all food elements, too much handling, infections, acute surgical conditions, are commonly recognized causes of abdominal pain or colic in infancy. However, a number of difficult feeding problems do not seem to fall into any of these classes; at least, the above-mentioned treatment is not effective.

COLIC DUE TO AN ALLERGIC ORIGIN

During the past fifteen years, Richet[1] and others have suggested that many cases of colic may well be on an allergic basis, and certain of our failures may be due to this added factor which has received too little attention—sensitization to protein or abdominal allergy.

As Shannon[2] points out, infancy and early childhood is a period of developing immunity, a time of adaptation not only to infection, but to foods as well. Certain individuals fail to develop a protective mechanism and more or less permanent state of hypersensitiveness exists. Richet,[1] Schloss,[3] and others have described marked, even fatal, cases of sensitization associated with vomiting and abdominal pain. It is our opinion that troublesome abdominal symptoms occur during this time of adaptation. Often the sensitization is so slight that negative skin reactions result from routine testing, but is sufficient, especially during the first few months of life, to produce an appreciable amount of the colic of infancy. Dermal testing to foreign proteins is easily performed and causes little discomfort on the backs of even very young children. Moreover, in breast-fed infants, positive skin reactions often give us our only clue to the food in a mother's diet responsible for allergic manifestations. The studies of Rowe[4] and Alexander[5] show that skin tests are not positive in most patients all of the time and, consequently, negative reactions do not eliminate a given food from consideration as a causative factor. Also in the bottle-fed infant while the diet is limited to milk, with or without the addition of one of the common grains, it is usually more convenient and satisfactory to the patient to eliminate one food at a time or attempt to make the protein more completely digested than to utilize skin tests.

Clinically, and even experimentally, it is as yet impossible to determine where indigestion ends and allergy begins. However, it is our opinion that the following points are sufficiently suggestive to justify, as a working hypothesis, the assumption that certain cases of infantile colic can best be treated when considered as an allergic manifestation:

1. As new foods are added to the diet of the growing infant it is common to find certain substances repeatedly causing vomiting, abdominal pain, or both, whenever offered. As an illustration, baby J. W., whenever offered tomatoes, would suddenly cry out with pain shortly after ingestion or often vomit. This patient's brother and sister have asthma and the mother's hands "become red and swollen" whenever she has attempted to prepare tomatoes. Or, again, baby M. B., aet. eight months, intermittently awakens during the night expelling flatus and crying as if in pain whenever given spinach. While breast-fed, he was uncomfortable for twenty-four hours after his mother had eaten spinach. This infant gave a positive skin test to spinach.

2. In our opinion colic, in common with other allergic manifestations, is increased during and following acute infections. This may be due either to a temporarily increased sensitization to a given substance or a less complete digestion of the protein molecule. The following, from the history of baby M. H., aet. nine months, is an example: For one month this infant had expelled flatus and awakened at night with apparent abdominal discomfort. It was suggested that her milk be cooked forty-five minutes in a double boiler. The symptoms disappeared for two months, but recurred for one week, coincident with a mild upper respiratory infection, and ceased entirely as the nasal and pharyngeal inflammation subsided. One week later, to test this patient's reaction to cow's milk, unboiled milk was given. After four nights the flatus and wakefulness at night recurred and ceased immediately when cooked milk was again used. Cow's milk casein gave a positive skin reaction in this infant.

3. Eczema, asthma, hay fever, and less frequently encountered allergic manifestations are followed by quiescent periods—times of proved sensitivity succeeded by symptomless phases. It is suggestive that colic is also cyclic and rarely continued unabated for long periods, but is present for a varying time in twenty-four hours or occurs for a few days interspersed by times of comfort even when the diet remains unchanged. In connection with this point, the suggestion of Cohen and Brietbart[6] that the etiology of pylorospasm may be allergic is interesting. Regurgitation in this condition typically occurs in phases.

4. When colic and eczema occur together in the same infant, it is common to find an exacerbation of the rash accompanied by abdominal symptoms. Moreover, both respond to the same change in formula. Many specific instances could be cited from our own practice. Park White[7] recently reported a group of forty-seven infants and found those with colic, in whom eczema developed later, almost three times as numerous as those suffering from either condition alone.

5. Colic, in common with eczema, is often controlled by the use of milk modifications which make the protein more easily digestible, *e. g.*, boiling. Brennemann[8] and others have shown cooking alone or with cereal produces a smaller and more friable curd in the stomach. Walker[9] has shown that the probability of sensitization decreases as the protein molecule is broken down

in the process of digestion. Consequently the complete digestion of the protein molecule may well account for the correction of the abdominal symptoms in the case cited above.

TREATMENT OF MARKEDLY SENSITIVE INFANTS

On the assumption that food sensitization is a common cause of abdominal distress and vomiting in infancy, the following practical points have proved useful:

In markedly sensitive individuals only the complete elimination of the offending protein will suffice. In breast-fed infants the problem is apt to be difficult, due to the varied diet of the mother. Positive skin reactions in either mother or child often provide our only clue. When negative, careful questioning of the parents, requiring at times real ingenuity, is necessary. A history of repeated attacks of hives following a given food either before, during or after pregnancy; abdominal distress from common proteins, as milk, disregarded in an effort to successfully nurse the infant; or as reported by Ratner,[10] overindulgence in certain foodstuffs during pregnancy may be our only suggestions for the modification of the nursing mother's diet.

In spite of the fact that Stuart[11] was unable to confirm the experimental observation that proteins can be transmitted through breast milk, Ratner,[10] due to his own clinical observations and those of Talbot[10] and also O'Keefe,[10] feels Shannon's[12] premise may still be correct, *i. e.,* incompletely altered protein may be present in sufficient amounts in a mother's breast milk to sensitize the nursing infant.

In bottle-fed infants it is often necessary to use some milk substitute as the soy bean preparation suggested by Hill and Stuart,[13] or a butter soup mixture. In our own experience, infants reacting to cow's milk are commonly sensitive to goat's milk as well. Bordet, Weld, and Flescher[13] have shown, experimentally, that the casein of cow's and goat's milk are closely related antigenically. When new foods, as vegetables or cereals, are added to the infant's diet and found to produce colic with or without vomiting, the article is removed from the menu and not offered again for weeks or months, and then only in small and slowly increasing quantities. The result obtained with baby M. H., aet. two and one-half months, is interesting. This infant was never breast-fed. She came to us while on a formula containing insufficient calories. Her gain had been slight, she had vomited about 50 per cent of her feedings at irregular intervals, and was very fussy. When an adequate formula was given she gained ten ounces in the first week, but began vomiting, projectally, two to three times daily, cried following feedings and expelled considerable flatus. Her bowel movements were well digested. On evaporated milk, cooked forty-five minutes with barley flour, the vomiting increased and more than one-half of the formula was refused unless the feeding was given over a period of one hour. Physical examination up to this time (aet. six weeks) was negative, except her tissue turgor was below par. While still on evaporated milk, she was examined at feeding time. The bottle was taken slowly and, after one ounce had been fed, definite gastric peristaltic waves were visible, but no pyloric tumor palpated. Skin tests revealed a mild reaction to cow's milk casein. Feeling that the small amount of casein in a butter soup mixture would probably be insufficient to produce vomiting if this patient's symptoms were on an allergic basis, it was tried. From the first feeding, it was well taken, the vomiting decreased in intensity and frequency and no discomfort was apparent following feedings.

TREATMENT OF MODERATELY SENSITIVE INFANTS

In moderately sensitive infants it is usually unnecessary to entirely eliminate the offending protein. By modification the aim is to make the protein molecule more easily and thoroughly digested. Simple cooking of the milk thirty to sixty minutes in a double boiler is all that is necessary in some cases. If this is not effective, fresh or evaporated milk, cooked one hour with one of the cereal grains, is used. It should also be noted here that the cereal used must vary with the individual, as an infant may be sensitive not only to milk but also to one of the grains. Sensitization to wheat is more common than to either rice or barley.

Because its buffer-reducing action facilitates the gastric digestion of protein, 85 per cent lactic acid is often added to any of the above milk mixtures. No definite amount is routinely used, but a small addition, as one drop per ounce, of milk is started and increased to the clinical optimum for the individual patient.

SUMMARY

In conclusion, we have attempted to show that:

1. Many cases of infantile colic do not respond to the commonly accepted methods of treatment.

2. Our observations, supported by the clinical and experimental work of others, suggest that many of these infants can best be treated when considered as hypersensitive individuals.

3. Treatment consists in the removal of the offending article or modification to produce a more complete digestion of the protein.

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DISCUSSION

William Palmer Lucas, M. D. (490 Post Street, San Francisco).—The subject of food sensitization in infancy has been most interesting to me. The wide variety of symptoms and the varied clinical pictures which may be presented by allergic infants make it paramount to consider allergy as a possibility in many instances. Abdominal allergy, especially as related to so-called colic, occurs not infrequently. The difficulty rests not in convincing oneself of the relationship existing between these conditions, but in being able to pick out those infants actually sensitive to particular food substances. Having ruled out the common causes mentioned by Doctors Stafford, Watson, and Jacobus, one should certainly investigate these uncomfortable infants from an allergic standpoint. Simple scratch tests to the common foods will aid greatly in a number of instances. Even failure to obtain positive tests and the absence of a positive family history or history of food idiosyncrasy in the mother cannot at the present time justly rule out this factor. Attempting to eliminate the offending food or at least to alter the digestibility of the protein in such cases is the logical course. Obtaining good results in such instances, one still remains to be convinced that each of these individuals is actually hypersensitive. Certainly I should feel the abdominal discomfort accompanying acute infections is far more likely due to impaired function of the digestive apparatus than to actual sensitivity to one or another of the proteins. After any amount of discussion, however, it must be stated that a certain number of colicky infants represent a group truly hypersensitive, and one welcomes the drawing of attention to this phase of allergy by Doctors Stafford, Watson, and Jacobus.

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Albert H. Rowe, M. D. (242 Moss Avenue, Oakland).—Food allergy as a cause of abdominal symptoms in patients of all ages is gaining more recognition. Doctor Stafford's presentation of the subject, from the viewpoint of the pediatrician is commendable. The chronic, mild, severe, and even fatal, reactions in the gastro-intestinal tract that may be due to food allergy were vividly presented in the monograph by Laroche, Richet, and Saint-Girons, as written in 1914 and recently translated into English. The article by Schloss in 1920 is also worthy of study. Increasing evidence, as presented by Doctor Stafford, that colic and pylorospasm may be due to food allergy in certain infants is available. Constipation must also be considered, with the possibility in mind of smooth muscle spasm in the intestines due to allergy. As our studies progress, more of the feeding difficulties of infancy will probably be shown to be the results of food sensitization.

I think that every infant should be thought of as potentially subject to allergy. This is especially important where there is a family history of allergy. It is my opinion, moreover, that there is a definite tendency to the transmission of types of allergy and probably even of specific food allergies. I have many records of milk allergy in three or four generations. Denaturization of milk and other foods by heat is effective in mildly sensitive patients. In many instances it does not prevent the allergic manifestations or may only reduce them with the result that low-grade chronic symptoms persist which escape recognition. The fact that food allergy produces more mild hidden disturbances than severe acute ones must be appreciated.

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Ralph Bowen, M. D. (The Polyclinic, Memphis, Tennessee).—When a child is seen for the first time with symptoms related to the gastro-intestinal tract, I believe the possibility of an allergic condition should always be considered as a routine matter. On account of the fact that over 90 per cent of the children whom we see with some allergic condition give a positive family history, inquiry should always be made as to the presence of hay fever, asthma, urticaria, eczema, digestive disturbances, and sick headaches on both sides of the family. I believe that digestive disturbances due to allergy are very much more common than is generally recognized, and the symptoms may vary from a dislike for certain foods to convulsions, collapse, and death.

We have also noticed that in some children the symptoms are mostly gastric and that certain foods produce nausea and vomiting immediately. Others have colicky pains which may come on shortly after ingestion or several hours later. In others the mucous membrane of the colon seems to be the sensitive organ, and certain foods seem to produce spastic constipation, while others produce irritation, overproduction of mucus, and sometimes blood and diarrhea. Wheat is one of the foods which we have seen produce spastic constipation, while peas, beans, shellfish, and others have produced diarrhea.

We do not believe that any definite statement can be made in regard to the relationship between one's appetite and symptoms as a guide. Some children are very fond of certain foods to which they are sensitive and which have been proved to be toxic for them, while others have a strong dislike for the majority of the foods to which they are sensitive. We are also convinced that some children are so mildly sensitive to foods that it requires days and sometimes weeks before symptoms are produced, which accounts for cyclic phases.

Generally speaking, skin testing has been very helpful in dealing with children where foods in 10 per cent solution are employed for scratch testing instead of the powdered form, and followed by intradermal tests. We would like to call attention to the fact that we do not believe intradermal testing is safe unless preceded by negative or doubtful scratch tests. It has been found also that when a child has hay fever, asthma, urticaria, eczema, and abdominal allergy, as some of them do, the abdominal allergy is more easily controlled when proper treatment is instituted for the hay fever and asthma. In other words, the control of one allergic manifestation seems to benefit the other.

This subject is a most important one, and until the question of allergy is ruled in or out we believe many cases of abdominal allergy will be missed.

* * *

Edward S. Babcock, M. D. (Medico-Dental Building, 1127 Eleventh Street, Sacramento).—Colic, as well as all other gastro-intestinal disturbances in infants, is undoubtedly becoming less common with the development of scientific infant feeding.

Since the middle of the eighteenth century, when Von Rosenstein first advocated the dilution of cow's or goat's milk with water or cereal water to make it more digestible for the infant, many other methods of modifying milk have been advocated. Boiling, evaporating, powdering, peptonizing, the addition of alkalis or acids, the removal of whey, the removal or addition of cream, the addition of various cereals and various sugars are the most common modifications. Assuming that we understand how and when to employ these various modifications and using all our present knowledge in prescribing feedings, still we frequently see babies with colic. Ruling out surgical conditions, focal or systemic infection and improper nursing care, I believe these cases can nearly always be shown to be allergic and when handled as such the results are often most gratifying.

It is known that boiled or evaporated milk forms a smaller and softer curd than raw milk, and this has been the explanation for the fact that babies have less feeding disturbances when cooked milk is given. Perhaps there is also another explanation. According to Freudenberg, the lactalbumin passes through the intestinal wall easily and cooking diminishes this absorption and the possibility of sensitization. Cutter, in studying the antigenic properties of evaporated milk, reports a diminution in the whey protein and no change in the casein. It seems possible that some of our good results with eiweissmilch or protein milk may be thus accounted for, also.

Considerable has been written in the past few years about the rôle of infection in some of these troublesome feeding cases, but practically nothing about allergy, and I believe this paper of Doctor Stafford's brings out a new chapter in infant feeding. Even the latest textbooks on pediatrics and infant nutrition have apparently overlooked this most important subject.

Everyone who is feeding a large number of babies must agree that colic is not uncommon. That frequently no apparent cause can be found. That by removing or altering one or more of the protein elements in the formula the symptoms subside or are relieved. The authors have been very conservative in their conclusions and have not given the impression that all distress in infants is due to abdominal allergy.

THE CLINICAL CLASSIFICATION OF PULMONARY TUBERCULOSIS[*]

By Sidney J. Shipman, M. D.
San Francisco

Discussion *by Chesley Bush, M. D., Livermore; F. M. Pottenger, M. D., Monrovia; C. E. Atkinson, M. D., Banning.*

The older accepted classifications of pulmonary tuberculosis, such as the Turban classification and the classification of the American Sanatorium Association, have been based largely upon the extent of lesions. Thus, it is customary to speak of minimal, moderately advanced or far advanced lesions, and, more recently, to add A, B, or C, to denote the severity of the process or symptomatology. Admirable and necessary as is such classification, it is doubtful if it fully covers the ground as far as clinical need is concerned, for the gravity of tuberculosis may be determined no less by the type of pathology than by the extent of actual lesion.

OTHER CLINICAL CLASSIFICATIONS OF PULMONARY TUBERCULOSIS

Fraenkel in 1904 and Albrecht in 1907 attempted to separate pulmonary tuberculosis into two types—the exudative and proliferative. This classification was adopted by Aschoff and his school at Freiburg and has since been accepted by a growing number of clinicians. Siegfried Gräff and Leopold Küpferle[1] in their excellent work, Die Lungenphthise, which appeared in 1923, did much to further the popularity of the classification.

Nevertheless this division of pulmonary tuberculosis into two predominant clinical types has encountered some opposition. F. M. Pottenger, in particular, has taken exception to the terms, which in effect separate "into two distinct groups phenomena which are qualitatively the same, differing only quantitatively." [2] In the same article Pottenger states:

> "The exudative and the proliferative processes, as they are encountered in chronic tuberculosis, are not totally different processes, as would be required in order to make them bases of types into which tuberculosis is to be divided. On the contrary, as we meet them, either in primary tubercle or in the early reinoculations, whether caused by bacilli escaping from foci in which they have been confined within the body of the host or by bacilli entering from without, or in the course of clinical tuberculosis, they represent different phases of the same tissue reaction to bacillary invasion. The difference in the degree of reaction varies with the degree of specific resistance present and the dosage of bacilli; a few bacilli causing a slight hyperemia with little exudation and the proliferation of fixed cells; while many cause severe inflammatory and exudative phenomena."

Although denying that exudation and proliferation may be legitimately used as a basis of classification in pulmonary tuberculosis, Pottenger none the less recognizes that they exist, for he discusses them, rightly pointing out that they merely represent different phases of the allergic reaction. Few would quarrel with this statement. Clinical studies carried out on human material, if continued for a sufficient length of time, will show this, as has been demonstrated by Elizabeth Davis and myself.[3] In a clinical study, now in its fifth year, of the nurses at the University of California, we have observed the development of clinical pulmonary tuberculosis in previously healthy and roentgenographically negative young women, and we have been struck with the fact that apical proliferative tuberculosis was present concomitantly with moderate skin hypersensitiveness, while exudative lesions have appeared only in the presence of marked cutaneous tuberculin reactions. Skin tests were done both before and after the appearance of manifest tuberculosis, so that we had some idea of the degree of allergy in these young women before they became ill.

What should be emphasized in the exudative-proliferative classification is that it is a classification of clinical expediency only, and that it does not deny the essential unity of tubercle or the part played by allergy in the formation of a lesion. Indeed it is doubtful if any clinician could successfully treat tuberculosis without an under-

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[*] From the department of medicine, University of California Medical School.

[*] Read before the General Medicine Section of the California Medical Association at the fifty-ninth annual session at Del Monte, April 28 to May 1, 1930.

Table 1.—*Clinical Differences in Exudative and Proliferative Lesions*

	Onset	Breakdown	Course	Cavitation	Treatment
Exudative	Usually catarrhal, mild or severe	Recent	Favorable—resolution Unfavorable—rapid extension	Early with thin walls	Rigid
Proliferative	Usually insidious	More remote	Favorable—static lesion Unfavorable—slowly progressive	Late with fibrous walls	A modified life

standing of the part played by allergy; certainly he could not secure the results otherwise obtainable. Without such knowledge the classification itself would be meaningless.

PROLIFERATIVE AND EXUDATIVE GROUPS

Unfortunately not all cases can be classified into either proliferative or exudative groups; in addition, exudative cases become proliferative as time goes on and proliferative cases at times develop fresh exudative lesions. Nevertheless a large number of cases are predominantly proliferative or predominantly exudative and as such may be classified to advantage. Such classification is useful from a clinical standpoint for the following reasons: (1) It is descriptive, and gives some idea of the underlying pathology in the lung; (2) it foretells the possible or probable course of the disease; and (3) it furnishes a valuable guide to treatment. The chief clinical differences in the two types of lesion are noted in the above table.

While the mode of onset in the exudative type is usually catarrhal, the initial symptoms may be so slight as to pass unnoticed, and the event which calls the disease to the patient's attention may be hemoptysis or pleurisy. When detected early there may be nothing except the roentgenographic evidence to indicate the true nature of the disease, for all other symptoms may be lacking. Since the lesion is almost always subapical, physical signs are frequently difficult and sometimes are impossible to detect. The asymptomatic nature of the disease at this stage is misleading, and unless one recognizes the fact that the lesion is treacherous and is apt to extend readily and to cavitate quickly, a false feeling of security might lead rapidly to disaster.

However, the widespread opinion that the exudative type of pulmonary tuberculosis is inherently an unfavorable type seems to me to be without scientific foundation. Such a supposition ignores the fact that exudation is the result of a high degree of allergy, and we have excellent reasons for believing that allergy and resistance travel hand in hand. Early exudative lesions can heal without clinical trace. Thus, if one ever secures a perfect result in the treatment of pulmonary tuberculosis, it should be secured in these cases. The treatment must be rigid, however. Bed rest accomplishes wonders.

The insidious onset of proliferative lesions usually allows them to become more extensive before detection, although, being usually apical, they can more often be detected by means of physical examination. They can be followed more accurately in the same manner. It is my feeling that these patients can often be successfully treated by a modification of activity if necessary, although in the presence of fever bed rest is, of course, essential.

Surely there is today sufficient clinical advantage in dividing cases of pulmonary tuberculosis into predominantly exudative or predominantly proliferative to make the division useful. For several years the writer has been in the habit of

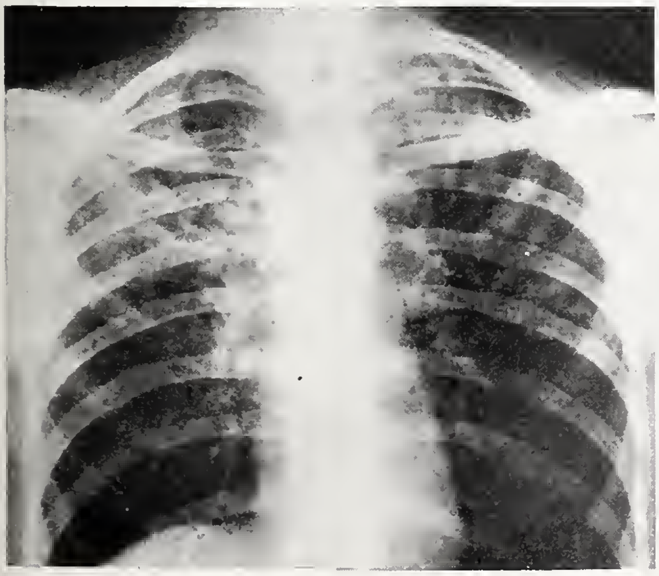

Fig. 1.—Acinous exudative tuberculosis in a young man with laryngeal tuberculosis, who later died with tuberculous meningitis. Note fine distribution of lesion.

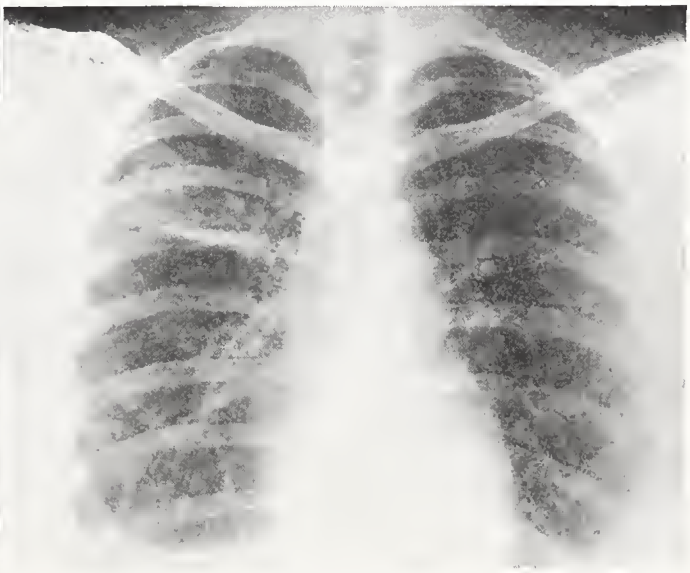

Fig. 2.—Early exudative lesion in the lower part of the right upper, with cavitation behind the second rib. Hemoptoic onset in a girl of nineteen. After initial hemoptysis entirely asymptomatic.

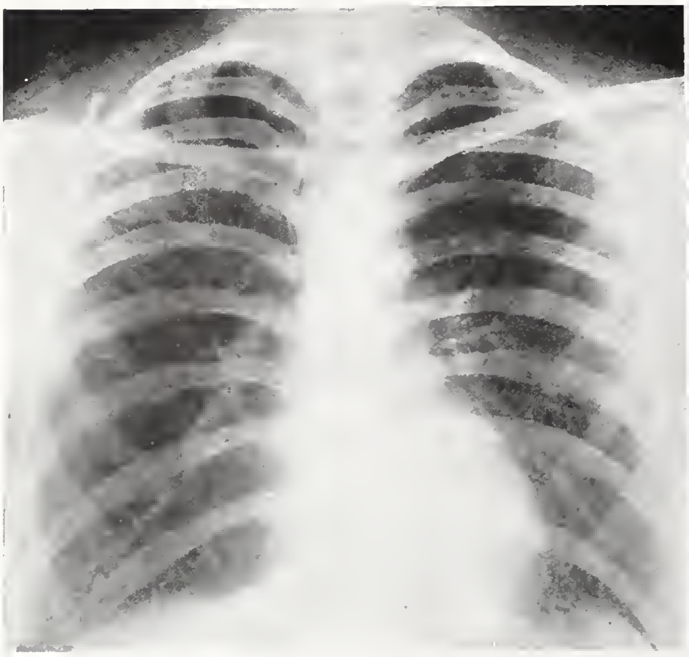

Fig. 3.—Exudative lesion in the right upper with early, fresh cavitation, in a young woman of twenty. Catarrhal onset with symptoms of brief duration. During strict bed rest, cavity enlarged. Clinical cure with compression.

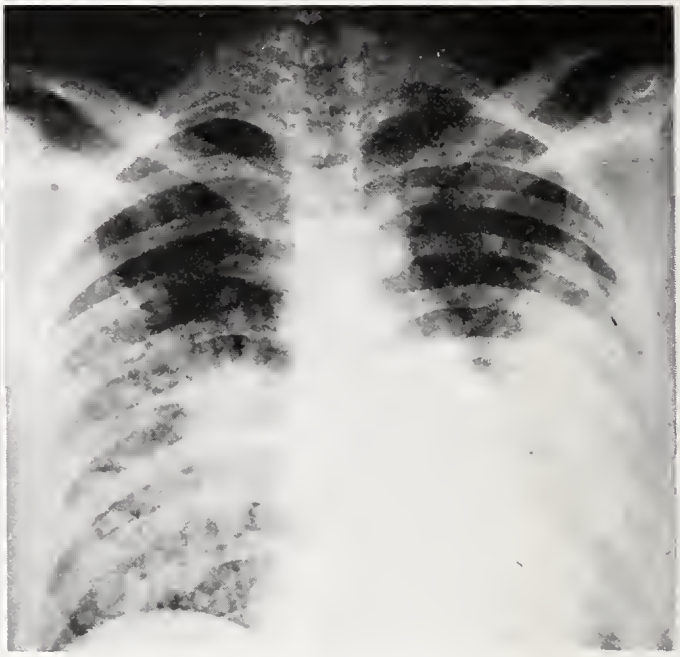

Fig. 4.—T. S. (1-15-27). Widespread lobular exudative extension following intractable hemoptysis. With the onset of hemoptysis the left lung was immediately compressed, and an excellent compression obtained, without, however, any effect upon the bleeding. With acute extension and resultant dyspnea, pneumothorax was abandoned. A small amount of air can be seen in the left pleural cavity. Death occurred two weeks later.

classifying his cases, where possible, into minimal (exudative or proliferative) A, B, and C; moderately advanced (exudative or proliferative), A, B, and C, and so on. While slightly more cumbersome, the classification becomes much more valuable and descriptive. Certainly in this manner it is possible to visualize the character as well as the extent of the lesion.

A number of illustrative plates follow. For a more complete description with excellent illustrations of pathological material, the work of Gräff and Küpferle[1] is recommended.

490 Post Street.

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DISCUSSION

Chesley Bush, M. D. (Arroyo Sanatorium, Livermore).—Doctor Shipman has pointed out the inherent

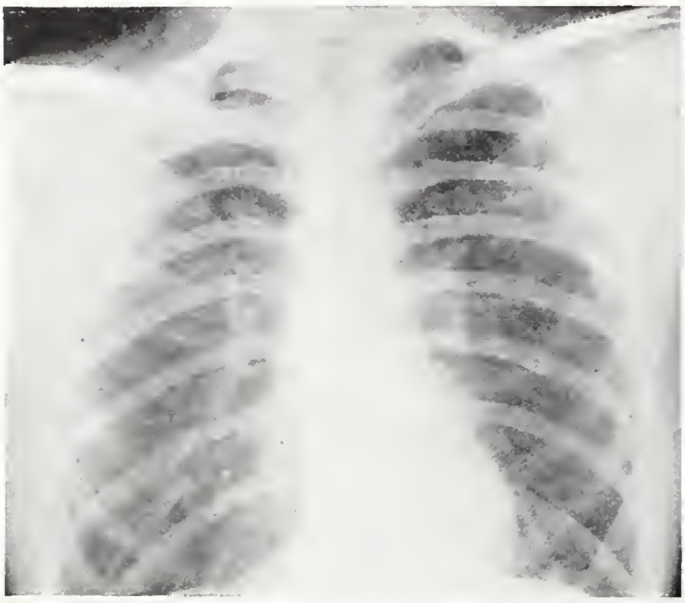

Fig. 5.—A predominantly proliferative lesion, involvboth uppers and the left lower, in a woman of twenty-eight. Insidious onset with febrile course for several months. Although the clinical course was satisfactory and the young woman is now pursuing a normal life, the character and extent of the lesion have shown no change in two years.

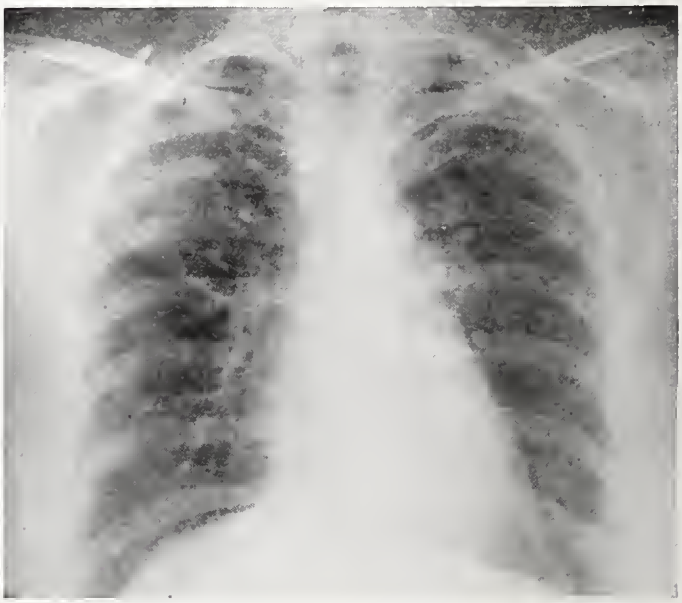

Fig. 6.—A predominantly proliferative lesion, involving chiefly the right upper but distributed throughout both lungs, in a woman of forty-five. Insidious onset with mildly febrile course for several months. For the past five years this woman has been leading a normal life, but the character and extent of the lesion, as far as x-ray evidence is concerned, have not changed since she was first seen, six years ago.

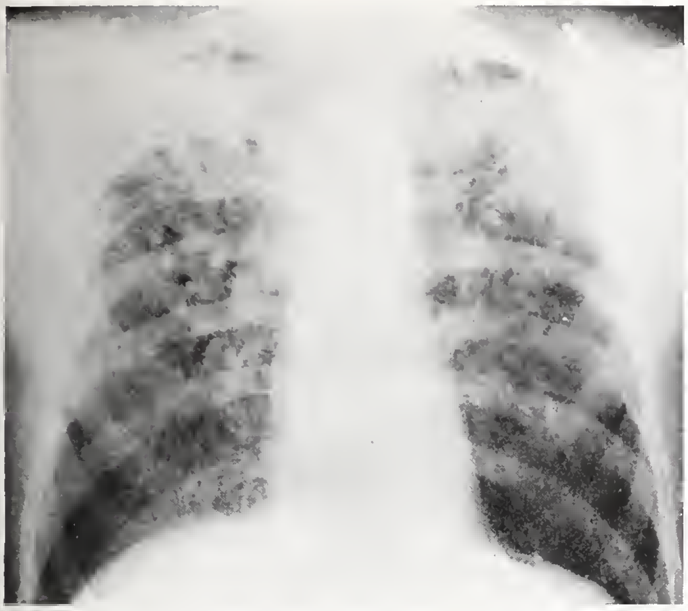

Fig. 7.—Proliferative (fibroid) lesion in a man of forty-six. Insidious onset with mildly febrile course for a few weeks. Marked gain in weight. Clinically well and at work for one year, but for two years the character and extent of the lesion has remained almost unchanged.

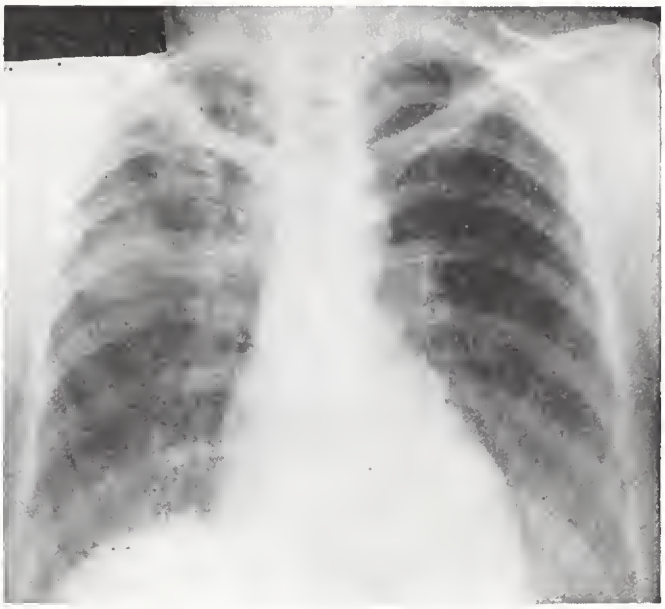

Fig. 8.—Predominantly proliferative and predominantly exudative lesion in a woman of thirty. The proliferative lesion involves the upper portion of the right upper. The exudative lesion is seen below it as a soft cloudy shadow, in marked contrast to the harder, stringy lesion above. The exudation occurred suddenly, following parturition and, with bed rest, cleared completely in six months. The apical lesion remains unchanged.

weaknesses in the older classifications of pulmonary tuberculosis. They take no account of the quality of reaction. Irrespective of the quantity of reaction our therapy must be modified by the quality. Undoubtedly the great improvement in the treatment of pulmonary tuberculosis made in the last ten years is almost entirely due to better and more frequent x-ray studies of the chest. While it is true that the words "proliferative" (productive is better) and "exudative" do not adequately describe the difference between these two types of lesions, and while it is also true that both types may be present in the same individual, yet we recognize the predominant type from the x-ray picture and treat accordingly. The exudative lesion is the most dangerous and requires the most intensive and immediate rest care, but may offer the best results in the end. This type is most frequently seen in our young people and furnishes the start for what we termed in the past, "galloping consumption." These patients require immediate care, and if they have to wait for weeks or months to obtain a bed in a sanatorium may lose all hope for recovery. If they have no means of complete hospitalization or adequate bed rest in a home, they should be considered emergencies and never be compelled to wait; for within a few days they can advance from a minimal to an advanced tuberculosis. Their lesions should be described in classification.

While productive lesions also require care, such care need not be so immediate or so intense. When tuberculosis was treated on physical signs alone many patients with exudative tuberculosis died for want of diagnosis, and many patients with productive tuberculosis were retained in bed for years unnecessarily.

I note Doctor Shipman's experience with nurses, which seems to indicate that exudative type lesions give a greater tuberculin skin sensitiveness. This is a work which will bear further study and is of great importance. Our ideas as to allergy, resistance (or immunity) are still vague. There seems to be more in immunity than just allergy.

We see a type of pulmonary lesion in children which we call "allergic" for want of a better name. It differs from the adult exudative in appearance, but clears without x-ray evidence of scar as may the exudative. There may be several types of pathologic changes in what we loosely term an "exudative lesion," and this would account for the various results observed from complete resolution to part resolution and part fibrosis, and even excavation. But whatever the basic pathology may be, we shall do well to keep in mind this x-ray classification, because of the clinical value.

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F. M. Pottenger, M. D. (Monrovia).—The author's paper deals with an important subject in clinical tuberculosis. The older classifications, based on extent of the lesion, were unscientific and gave no basis for prognosis. They served a good purpose, however, in making men examine more carefully in order to determine how much disease was present, and were responsible for the development of much of the expertness in physical examination which has characterized the work in chest clincis in recent years. Rathbun's addition of the physiologic reaction to the anatomical extent as adopted by the National Association is a great improvement.

The only real basis for classification, to my mind, however, is the immunologic one. With a conception that the whole picture of clinical tuberculosis is either directly or indirectly produced by the patient's specific reaction to his infection, we have a basis for understanding every aspect of the disease. We cannot understand any of the phenomena which are present during its course apart from the immunity reaction.

It is our conception that the cell sensitization which causes the allergic reaction is a step on the way toward the establishment of immunity. As immunity becomes more effective the allergic reaction becomes less necessary and less evident. The higher the sensitization of the cells the greater the allergic reaction, and the greater the allergic reaction the more prominent the exudative phenomena. This is why the preponderantly exudative tuberculosis is more active and more dangerous than the preponderantly proliferative. When patients are ill for a long period of time it will be seen that the exudative phenomena are less prominent in comparison with the opportunities for reinoculation than they are in earlier lesions. There is, on the other hand, an increase in proliferative effects in those cases as they advance, even in those which were primarily exudative in character. This effect may be considered as being due to a marked desensitization to tubercle bacilli and bacillary protein, or, which is the same thing, to an increase in the degree of immunity present.

This desensitization particularly characterizes cases of tuberculosis which are preponderantly proliferative in type, the so-called fibroid cases. Cases are sometimes preponderantly proliferative from the very start, as mentioned by the author, and may remain so until healed; or until, for some reason, either an excess in dosage of bacilli or a depression of immunity, allergic phenomena again come to the fore, and cause an exudative reaction to be superimposed upon the proliferative process. The preponderantly proliferative lesion is relatively mild.

Since patients suffering from chronic proliferative tuberculosis do not show the same degree of toxemia as those with exudative lesions of similar extent, they can be treated differently. They can be put on exercise sooner and be treated by a less restricted regimen. There is one thing, however, that must always be borne in mind in considering treatment for the chronic proliferative type, and that is, that the toxemia is so slight that the patient too often finds himself with an extensive lesion before he knows it is present. He is usually apprised of its presence by a breakdown of his immunity, associated with an increase in allergic reaction, which is shown by an increased acuteness, or by dyspnea, which is produced by the gradual restriction in the amount of functioning pulmonary tissue, or by symptoms on the part of the gastro-intestinal tract. So for this reason the proliferative type of tuberculosis should be treated seriously as soon as recognized so that the patient be given full chance for recovery.

There is a tendency on the part of some clinicians to assume that small proliferative lesions are benign and require no special attention. When one recalls that all extensive proliferative processes were once limited in extent, the necessity of treating any lesion which is unhealed as a potential danger must be evident. It may be treated differently, but it must be followed carefully and the patient must be kept under rigid surveillance until healed. Doctor Shipman rightly makes the difference in character of lesion the basis for a variation in therapy, but he does not make the preponderantly proliferative process a basis for a let alone policy, as some are inclined to do.

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C. E. Atkinson, M. D. (Southern Sierras Sanatorium, Banning).—The title of Doctor Shipman's article, "The Clinical Classification of Pulmonary Tuberculosis," appeals to me as having been exceptionally well chosen. Although exudation and proliferation are, as Doctor Pottenger states, essentially merely different phases of the same process, varying only quantitatively, yet for clinical purposes and as a working guide to prognosis and treatment, a classification along the lines suggested is most helpful.

I think it is understood that the classification should go further, including, so far as feasible, notations such as the extent and location of the lesions, and recording the presence or absence of cavities.

My own views coincide with the discussions by Doctor Bush and Doctor Pottenger. As pointed out by Doctor Shipman, exudative lesions at times clear rapidly; and in some instances no evidence, or practically no evidence of the tuberculosis, remains. We may well bear this fact in mind when reëxamining a patient who has previously been informed by another physician that he has tuberculosis. If a reputable physician has previously made a diagnosis of tuberculosis, even though our findings at a later date are practically negative, we are not justified in telling the patient that he did not have tuberculosis. Most persons have the impression that tuberculosis always leaves scars or some reminder of its prior presence; so, if our examination discloses no evidence of tuberculosis, it seems a good plan to explain to the patient that exudative tuberculosis may disappear completely, with no trace remaining.

In cases of the proliferative type with cavitation, it is not uncommon for an acute bronchogenic extension of an exudative nature to occur in the opposite lung. In a number of such patients, I have regretted not having adopted pneumothorax treatment sooner. Even in the presence of an exudative extension in the contralateral lung, if it is not too widespread, collapse therapy may still prove effectual.

Exudative tuberculosis is often brought to attention by a flu-like attack, or a so-called cold, and sometimes resembles a bronchopneumonia. It may develop rapidly into a veritable galloping consumption, and many cases will be altogether missed unless x-ray studies are made routinely.

Now and then there may, at an early stage, be difficulty, particularly as regards roentgen evidence, in distinguishing exudative tuberculosis from a nonspecific congestion or inflammation, or from a more or less localized pneumonic process, such as may be produced by influenza. A careful review of the evidence from all standpoints is, then, necessary before arriving at a diagnosis.

Exudative tuberculosis demands a prompt and intensive application of rest, and extraordinary watchfulness is imperative. If a satisfactory response is noted, no further measures are required. Owing to the comparative thinness of the cavity walls and to the relative absence of fibrosis, cases of predominantly exudative tuberculosis with excavation yield exceptionally well to collapse therapy. Cavities sometimes close completely under the more ordinary regimen, but frequent check-ups should be made, and if the case is not responding satisfactorily, some form of collapse therapy, in the absence of contraindications, should be instituted without further delay.

BLOOD TRANSFUSIONS IN CHILDREN*

By Phillip E. Rothman, M. D.
Los Angeles

Discussion *by P. F. McMurdo, M. D., San Francisco; E. P. Cook, M. D., San Jose.*

It is very difficult at the present time to properly evaluate the status of blood transfusions in pediatrics. Reports by Sidbury and by Krahulik and Koch describe results in practically every disease of childhood. It is at once apparent that, despite the type of illness or the condition of the patient, transfusion is a fairly benign form of therapy free from the dangers formerly ascribed to it. Therapy, however, that is used simply because it will do no harm and may do some good, is obviously not scientific medicine and will quickly deteriorate to the level of many obsolete panaceas. The most careful statistical analyses are necessary before we can feel certain that mortality rates have been reduced. The purpose of this paper is to give a brief review of prevailing impressions concerning blood transfusions in children and to reëmphasize some of the details of technique.

BLOOD DONORS

The amount of blood required for infants is comparatively small and, consequently, very little attention is paid to donors. Nevertheless, the blood of any individual who is repeatedly used as a donor should be investigated in order to avoid the production of an anemia. Although one person on record has been used sixty times and given 50,000 cubic centimeters of blood within six years (a total loss of ten times his blood volume) and remained well, others have developed a dangerous anemia after giving a much smaller amount. As an average, a healthy man may give 500 cubic centimeters of blood about eight times a year. It is also essential that the donor should have not only a negative Wassermann, but also a negative luetic history. There are recorded instances of syphilis developing in a normal patient after being transfused with blood from a latent syphilitic. Of more recent interest is the possibility of transmission of anaphylactic or reaction bodies when using a donor who is sensitive to any of the ordinary proteins. Ramirez has reported the contraction in a recipient of hypersensitivity to horse dander following a blood transfusion from an asthmatic donor. This is corroborated by the phenomenon known as "passive transfer" in which a positive skin test may be produced in a nonsensitive individual by performing the test over an area of skin that has previously been infiltrated with serum from a sensitive subject. Although this particular point is still not settled, it would seem wise to avoid, when possible, donors who are the victims of hay fever, asthma, and allied diseases.

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* Read before the Pediatric Section of the California Medical Association at the fifty-ninth annual session at Del Monte, April 28 to May 1, 1930.

The necessity for cross-agglutinating, as well as simply grouping, is more evident on the basis of Guthrie and Huck's reported three pairs of isohemagglutinin factors. They found that the original Group 2 is not a unit, but rather is composed of at least two types; the serum of each containing a single agglutinin, but the red cells differing in that one type contains two agglutinogens, the other only one. I have recently seen a similar case. The patient was a Group 4, but despite some twenty matchings, we were unable to find a donor. All the Group 4's failed to match. It is interesting that we finally transfused the patient intraperitoneally with a Group 4 donor without encountering any difficulty.

TRANSFUSIONS IN DIFFERENT DISEASES

Anemia.—Transfusions have always proved the most rapid and efficient way of treating the various anemias of childhood. The results from dietary and medicinal treatment are so slow that the infant remains a potential subject for any prevalent infection over a dangerous length of time. The prompt response to transfusion is well illustrated in the following case.

A male infant, first seen at one year of age, had a history of prematurity and a birth weight of three pounds. The patient was unable to sit up, ate poorly, was very pale, and weighed just fifteen pounds. The spleen was enlarged and the hemoglobin (Sahli) was 15 per cent. The tuberculin test was strongly positive. His mother died a few weeks later of pulmonary tuberculosis. After a blood transfusion of 165 cubic centimeters the hemoglobin was raised to 40 per cent, and three weeks later, after a second transfusion, the hemoglobin was raised to 60 per cent. He gained three pounds during the month and subsequently became perfectly well.

Sepsis.—Transfusions during the early stages of acute infections are no longer considered a dangerous practice and remain our most effective aid in combating sepsis. I have recently seen a boy with a severe osteomyelitis, staphylococcus septicemia, lung abscess and pneumothorax recover after having been critically ill for many weeks. He was transfused early while his temperature was very high without any untoward results. It is impossible to prove that the transfusions were directly responsible for the cure, as spontaneous improvement in such cases is occasionally seen. It is also impossible to collect comparable series of treated and nontreated cases of sepsis, as each patient has certain clinical variations that render comparison difficult. Krahulik and Koch report seventeen cases of lateral sinus phlebitis with septicemia treated with blood transfusion with a mortality of 35 per cent. Stetson states that any patient with septicemia without pneumonia or meningitis has an even chance of recovery if transfusion is employed. One is left with the impression that transfusion is justified in the treatment of sepsis, although actual figures proving a reduction in mortality are still forthcoming.

Pneumonia.—It is becoming increasingly more frequent to transfuse infants with pneumonia, and it should no longer be considered the hazardous procedure it was formerly supposed. It is particularly valuable in anemic infants with pneumonia; in the prolonged bronchopneumonia that follows pertussis, and less often in any type of pneumonia in which the outcome is problematical. A sufficient number have been transfused to prove that the presence of cyanosis, high fever, or dyspnea are not contraindications, provided the blood is administered slowly.

Erysipelas.—The use of transfusions in erysipelas seems of distinct value. The only satisfactory proof of the efficacy of this form of therapy is a reduction of the high mortality that occurs in the first year or two of life. Between five and fifty years of age the mortality in untreated cases is only four per cent and, hence, this group does not offer a means of comparison. In infants, however, we have frequently seen improvement immediately following transfusion and feel that it is chiefly the patients with positive blood cultures that do not respond to this or any other form of treatment. It should be remembered that in patients who show no improvement the use of another donor is indicated and often effects a cure. Jacobsen's report is particularly instructive. On two occasions he was unable to check the course of the disease with erysipelas antitoxin, but obtained prompt results with blood transfusion.

Marantic Infants.—The highest mortality at every pediatric hospital comes from the feeble marantic infants with respiratory infections and gastro-intestinal disturbances. These children are notoriously difficult problems and often succumb despite the best of treatment. The use of blood transfusions given early and repeated frequently has been of the greatest help and is carried out extensively at most institutions. Technical difficulties in these small babies have led to the use of intraperitoneal and intramuscular blood. Powers and others strongly advocate the intravenous route, and feel that the subsequent increased rate of blood flow is an especially desirable factor. It is also true that in the infants with feeble circulation the absorption is slow, and blood remaining in the peritoneal cavity unduly long may cause severe vomiting and signs of local irritation.

Burns.—Some years ago Bruce Robertson, the Canadian surgeon, advocated the use of the exsanguination-transfusion in infants moribund from extensive burns. He felt that the removal of a fairly large quantity of blood immediately preceding the transfusion would rid the patient of a good portion of the toxic products absorbed from the skin. In addition, it permits the administration of a much larger quantity of blood than could otherwise be given. Although this method has never gained wide popularity, I have observed three critically ill patients recover after its use and feel that it deserves a trial whenever the prognosis is doubtful.

Other Diseases.—In hemorrhage and in the various blood dyscrasias, transfusion has always been of the greatest help. It is likewise especially valuable as a postoperative measure in empyema and following operations for mastoid disease and osteomyelitis. It is occasionally necessary as a preoperative measure in pyloric stenosis, or as a means of rapidly improving a child's condition in preparation for any surgical procedure. In those prolonged and trying cases of celiac disease or carbohydrate intolerance, transfusion often supplies the necessary stimulus for a more rapid improvement. It is also helpful in relieving the severe anemia accompanying acute rheumatic fever and also nephritis, and increases the resistance of these patients to upper respiratory infections. Marriott feels that its use in nephrosis is distinctly helpful in relieving edema and causing general improvement, but other observers have not had such fortunate results. Sidbury's report of fourteen cases of severe acute respiratory infections with vomiting and diarrhea, so-called influenza-acidosis, treated with blood transfusion with recovery in all instances is perhaps an example of overenthusiasm. We have all seen patients with similar infections respond just as promptly to intravenous saline and glucose and the usual medicinal regimen.

COMMENT

It is the consensus of opinion that entirely too much attention is devoted to a discussion of the methods of administering blood. So many ingenious machines have been devised and so many modifications adopted that each hospital has a slightly different procedure. Any method which can be skillfully executed is the method of choice. "Mauling a small infant for an hour or more in order to give a few ounces of blood is often more detrimental than beneficial." Blood should be given at the rate of ten cubic centimeters per minute, using a minimum of ten and a maximum of forty cubic centimeters per kilogram.* Some degree of reaction is often unavoidable. The type of glassware, the preparation of rubber tubing, and the temperature of the blood are factors that have frequently been emphasized. The use of fasting donors, a point recently emphasized by Brem and Zeiler, greatly diminished the number of reactions in their series. The blood of a recipient occasionally does not match that of a former donor. This may be due to the fact that iso-agglutinins are not always established at birth. Patients with Hodgkin's disease notoriously react badly. In matching blood it seems advisable to allow the preparations to stand for at least one hour. Guthrie and Pessel report a case in which the blood of two individuals in the same group manifested strong agglutination at ice-box temperature; none in the incubator, and a wide variation at room temperature—extending from strong agglutination to none whatever, depending on the temperature of the room. They ruled out the possibility of an auto-agglutinin and concluded that a relatively weak agglutinin could manifest clumping in the cold, but escape recognition at room or incubator temperature.

In such an important task as blood matching, it is far better to divide the responsibility and not let it rest on one individual. A system should be inaugurated whereby each procedure is so carefully checked and rechecked that if a mistake is made it is quickly discovered by another person, and ultimately is of little or no consequence. Doan in an article entitled "The Transfusion Problem," says: "Certain it is that the work of these past months has taken the procedure of blood matching entirely without the realm of the casual passing attention of an inexperienced intern and placed it within the province only of the most carefully trained experienced quantitative clinical laboratory worker. The importance of blood matching is measured by nothing less than the life of the patient himself in a therapeutic procedure so frequently employed as a lifesaving measure and so easily capable of effecting the opposite result."

925 Pacific Mutual Building.

DISCUSSION

P. F. McMurdo, M. D. (909 Hyde Street, San Francisco).—The subject of blood transfusion is of so much importance that the more it is brought to the attention of the profession the better.

Transfusion should be used much more often than it is used, as there need be no fear of attempting it by any physician, provided the laboratory facilities are available for typing and cross matching the blood. This work should be done by an expert, the average intern scarcely being prepared to do it correctly.

The history of the donor is important and a repeated Wassermann, but an examination of the donor immediately before the transfusion is important also.

I believe whole unmodified blood only should be used. With a modern transfusion apparatus it is easy. It should not be necessary to "maul" an infant in giving a transfusion, a needle in the vein being all that is necessary. Of equal importance, one should not macerate or mutilate the blood cells; damaged cells do no good and are a frequent cause of severe protein reactions, and reactions are to be avoided, as no patient in need of a transfusion is in condition to stand them.

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* The most comprehensive recent review of the subject is by Dr. Grover Powers in the Transactions of The American Pediatric Society, 1929, Vol. 41.

Transfusions can be relatively of more use in children than in adults because it is easier to get a sufficient quantity of blood for a child.

In regard to method, I cannot agree with the statement of Doctor Cook that one should learn several methods and use the one best suited in a given case. The modern transfusion apparatus is so revolutionary and so superior to the old-fashioned pump, which churned up the blood in a glass syringe and forced it through pet cocks or ball valves, mixing it with the lubricating oil and mutilating the cells, that one need know but one method.

Especially should defibrinated blood, or citrated blood be condemned. In repeated transfusions, particularly if the same donor be used, a patient may become hypersensitive to transfused blood, showing an aphylactic shock. This hypersensitiveness may be tested for, and if found, the patient may be desensitized as in serum injections. It is, of course, difficult to positively state in a given patient that a transfusion will be or was life saving, but the results are often so brilliant that it should be done even in cases where there may be a doubt of its efficacy. Frequently a transfusion will do as much or even more for an infant than a month of special open-air treatment. While I do not consider transfusion a panacea, I do believe, when in doubt, the child should be given the benefit of the doubt and get the blood. In the present state of our knowledge we cannot state its limitations.

The blood should never come into contact with glass that is not coated with paraffin. The blood should not be longer than thirty or forty seconds out of the human body.

One should always remember that the blood is composed of myriads of delicate living cells, which if broken become merely a mass of protein.

Of course, no well known remedy should be neglected because one is using blood transfusion. Transfusions should be repeated every eight to ten days, unless contraindicated. As a general rule an infant can be given the necessary amount of blood in five to eight minutes.

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E. P. Cook, M. D. (Sainte Claire Building, San Jose).—We cannot have the subject of blood transfusion brought to our attention too forcibly or too frequently. Its value in the various conditions stated by Doctor Rothman is beyond question even though it may be difficult of exact statistical research. Those who have had experience in its use have a very positive feeling regarding its value. I should like to emphasize the anemias as giving one of the most frequent indications. Anemia is an almost constant finding in our malnourished babies and those presenting a difficult feeding problem. The giving of blood in amounts of 100 to 150 cubic centimeters two or three times, at intervals of ten days, will result in an increase of two million red cells.

I should also like to mention shock as another indication; and by shock I mean not only the traumatic and surgical variety, but also the newer conception of medical shock which accompanies pneumonia, the acute infections, and diabetic coma.

It is my belief that unless one has the understanding coöperation of a surgeon that pediatricians should be prepared to perform their own transfusions. It is a therapeutic procedure, the technique of which we can easily master, and if we will continue alive to its possibilities and be prepared to do it ourselves we are making a distinct advance in our therapeutics.

A recently encountered complication, unusual and interesting, is worthy of mention. An infant of ten months was given an intraperitoneal transfusion of 120 cubic centimeters of citrated blood. On the morning of the fourth day following, a sausage-shaped tumor mass was noted extending from the right external inguinal ring to the lower portion of the scrotum. Investigation revealed this to be a hematocele of the transfused blood. It may be difficult to differentiate such a condition from a strangulated hernia, because this one was irreducible, did not transmit light, presented an impulse on coughing, and caused no discoloration of the skin of the scrotum.

Doctor Rothman wisely refrains from advocating any particular method. Let us become familiar with several and choose the one best adapted to the individual case. I like particularly his statement that "mauling a small infant for an hour or more in order to give a few ounces of blood is often more detrimental than beneficial."

FUNCTIONAL DISORDERS VERSUS ORGANIC HEART DISEASE IN CHILDHOOD*

REPORT OF CASE

By Alfred Hamlin Washburn, M. D.
Denver, Colorado

Discussion *by A. J. Scott, Jr., M. D., Los Angeles; Harold K. Faber, M. D., San Francisco; Edward B. Shaw, M. D., San Francisco.*

In growing children, from infancy through adolescence the occurrence of either subjective symptoms or actual physical signs referable to the heart is relatively common. In the children's heart clinic of the University of California Hospital the author sees a good many children in the course of a year who have no organic heart disease and yet who present some symptom or physical finding which has been interpreted as being dependent upon cardiac disease. Occasionally patients are seen with rheumatic heart disease in whom no organic heart disease has been suspected. This paper will discuss the differentiation between organic disease and functional disorders of the child's heart.

To say that our first duty is that of diagnosis is a type of truism which even medical students resent, but I shall try to show that diagnosis, prognosis and actual treatment are so closely linked together as to make it necessary to be treating, diagnosing and working out a reliable prognosis all at the same time. Unless one considers: first, congenital cardiac defects; second, acquired organic heart disease (which is almost always of rheumatic origin); and third, functional disorders, in every patient with cardiac symptoms, one will surely fail in meeting the first obligation, that of diagnosis.

Patients who have had an acute rheumatic arthritis or chorea associated with an acute carditis with the resultant valve damage, offer little real difficulty in diagnosis. The treatment for such cases has been so thoroughly described in textbooks and journals as to relieve me of the necessity of discussing it here. Similarly patients who present a story of cyanosis since birth with loud heart murmurs offer no great problem except as to what particular congenital defect of the heart may be present. This discussion is chiefly regarding those borderline cases which reveal no characteristic story of rheumatic fever, no definite evidence of cardiac abnormalities during early infancy and yet present symptoms or signs of heart disease. To those who examine children frequently, this borderline group is larger than either the frank rheumatic or the typical congenital groups. With the hope of making my ideas directly applicable to practice, I have selected one record from my heart clinic files and shall build my argument around this case. I have chosen this particular boy, not because his is an unusual case, but rather to illustrate the type of problem we meet many times a year.

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*Read at San Francisco County Medical Society, May 6, 1930.

REPORT OF CASE

This patient, R. M., a boy of eight years, was first seen in October 1926, complaining of almost constant fatigue and occasional breathlessness on exertion. There was nothing of importance in his family history. He had been a normal healthy baby and had had no diseases other than occasional "colds" up to seven months previous to his first clinic visit. At that time he was taken acutely ill with fever, sweating, pain in his chest and extremities, and rapid, labored, breathing. There had been no tenderness, swelling or redness of any joints, but fleeting aches and pains in the extremities and severe pain in the left side of his chest. He recovered from these acute symptoms in about ten days and was allowed up on the fourteenth day. During the first month thereafter he complained so much of fatigue that a doctor was consulted. A diagnosis of heart disease was made and some medicine was prescribed. (On subsequent examination this proved to be tincture of digitalis.) No advice was given as to diet, exercise, rest, or any other changes in his daily regimen, nor was any explanation given the mother as to the nature of his heart trouble or its possible consequences. In the six months which had elapsed since that time he had shown only slight improvement with no gain in weight, marked fatigue by the end of the day, and a lack of the normal energy and enthusiasm of an eight-year-old boy. Occasionally he had complained of fleeting pains in his legs or arms, but there had been no other specific symptoms noted.

Examination revealed a well-developed boy who looked a little pale and thin and who sat in the typical posture of fatigue. His tonsils were of moderate size with crypts, scars and adhesions pointing to previous infection. There was a small amount of postpharyngeal exudate, but no sign of any acute infection in his upper respiratory passages. There were a number of teeth showing caries with secondary infection. Several anterior cervical lymph nodes were slightly enlarged, but not tender. The only other positive findings were referable to his heart. No enlargement was made out by palpation or percussion, the point of maximum impulse being visible and palpable 1.0 centimeter inside the nipple. The sounds were of fairly good quality, but not so loud nor so clear-cut as might be expected in a normal healthy boy of eight years with a thin chest wall. The second sound at the pulmonic area was louder than at the aortic area, but not accentuated. In the upright posture there was heard a loud roughened blowing murmur which occupied most of systole. It was loudest at the apex but well heard over the entire precordium and for a short distance toward the axilla. His heart rate was 88 and the rhythm regular except for a mild degree of sinus arrhythmia. A simple exercise tolerance test showed an increase in rate from 88 to 118 with a return to the initial level in two minutes—that is, his response to mild exercise was normal. To summarize, here was an eight-year-old boy who had been in good health until the onset of his present illness when he had developed chronic fatigue, fleeting pains, and breathlessness following an acute infection of unknown origin. The presence of chronic infection in tonsils, adenoids and teeth, and a loud rough systolic murmur in this pale, tired-looking boy completed the picture.

A casual impression was that here was a case of rheumatic fever in which the microörganism (be it streptococcus or not) had gained access to the body through the tonsils, attacking the heart seven months previous to his first visit to the clinic and leaving him with a rheumatic endocarditis involving the mitral valve. His subsequent fatigue, breathlessness, and fleeting pains would all seem to fit into this rheumatic picture. However, a more careful analysis suggested that we had to consider other possibilities. All of his symptoms and signs might be explained on quite a different basis. Assuming that his acute infection had been pneumonia which was followed by some smouldering infection in his tonsils and adenoids, then his symptoms might be thought of as due first, to the toxic effect of his respiratory tract infection upon his heart muscle, and second, to a very inadequate convalescence which left his heart muscle tone so poor as to allow a relative mitral insufficiency. Such an explanation would have necessitated a diagnosis of functional disorder.

To complete the differential diagnosis, we had to consider the possibility of a congenital defect. The patient had never been examined by a doctor until after his acute illness seven months before his first visit. The lack of any marked cardiac enlargement with so loud a murmur is surely in favor of congenital rather than an acquired organic lesion with which one has a right to expect the usual sequence of dilatation and hypertrophy. Moreover, there was no story of characteristic rheumatic symptoms. However, such a diagnosis will hardly explain any part of the picture except the murmur and even that is more characteristic of a mitral regurgitation. Consequently the possibility of a congenital defect was placed in the background and the chief problem was considered to be a differentiation between rheumatic carditis and a functional or relative insufficiency of the mitral valve dependent upon a weak heart muscle.

COMMENT

By functional heart disease I mean any disturbance of the heart which is not caused by a demonstrable organic lesion. This term may thus include such symptoms as breathlessness, palpitation, pain and fatigue of cardiac origin or any variations from the normal rate, rhythm and sounds of the heart. A great many murmurs are produced by relative valvular insufficiencies. As typical of these one might mention, (1) those occurring in the course of an acute infection, presumably dependent upon dilatation; (2) those following acute or chronic infections which may be due to either long-continued overwork or the direct action of toxins on the heart muscle; (3) so-called hemic murmurs, which are probably the result of an anemic heart muscle giving poor tone with relaxed ring and insufficiency of the valve; and (4) the murmurs associated with generalized muscular weakness as in severe malnutrition or a prolonged exhausting illness.

The other large group of functional disorders, which are concerned with variations in rate and rhythm, may be due to similar extracardiac diseases but are very frequently on a psychogenic basis. Premature beats, instability of rate, exaggerated sinus arrhythmia, and even paroxysmal tachycardia in childhood may be dependent upon a psychological disturbance which is not in itself a prominent enough part of the picture to be noted unless one is on the lookout for it. We have had many interesting patients of this type in whom we feel that there is an essential instability of the nervous system as evidenced by such outward signs as easy blushing, nervousness, a tendency to emotional instability and frequently great mental alertness or even precocity. It is in patients presenting such a background that we are most likely to find these functional disturbances of rate and rhythm. I think I have said enough to indicate that in functional heart disorders we must look upon the heart as a mirror in which we may see, if we examine it intelligently, the reflection of trouble elsewhere in the body. It may be a chronic infection, an anemia, an inadequate convalescence from an acute infection, or some psychological upset which is the primary cause of the disorder. To treat these patients satisfactorily one must do a thorough job at diagnosing, not simply their cardiac condition, but its cause.

DIFFERENTIATION BETWEEN RHEUMATIC AND FUNCTIONAL HEART

To return to our little patient, we have the problem of differentiating between a rheumatic or a functional heart disease. The situation in this case is quite typical of the uncertainty involved in handling this whole borderline group. A tentative diagnosis of rheumatic carditis with mitral valve involvement was recorded. The question of prognosis, which is of such vital importance to the parents, was handled by telling the boy's mother that he had a leaky heart valve which might be much improved by proper treatment, faithfully carried out. The only way I know of handling this is by a patient, thoroughgoing explanation about heart diseases and how to handle them, given in such simple terms that the layman can grasp them. To be an alarmist in making a prognosis is to run the danger of making an invalid out of a youngster who, if properly handled, may eventually have a heart of normal efficiency. If one talks about heart disease in front of the patient, one must take pains to convey the impression that the prognosis is good only if the outlined regimen is carefully followed.

The means by which we may reach the correct diagnosis and a sane prognosis are the same and very fortunately include treatment. The patient's reaction to the prescribed regimen gives valuable information about both of these other problems. People who think of treatment only in terms of medication are apt to say that we do not carry out any therapy at our children's heart clinic. On the contrary our treatment of such children as the one under discussion takes a great deal more time and patience than the mere writing of prescriptions. To either diagnose or treat a youngster with any form of heart disease without first making an adequate explanation to the child and parent and second, regulating his daily regimen in accordance with the tolerance of his heart for activity, is a dangerous procedure. The only safe measure is to familiarize oneself with the patient's entire twenty-four hours regimen. When does he rise in the morning? How soon does he eat breakfast? What does he eat and how long does it take him to eat? How soon after breakfast does he start to school? How far does he have to go, how much walking is involved and whether uphill or not? By examining the whole twenty-four-hour period one gains an adequate idea of the child's average amount of rest and activity. A schedule must then be worked out which gives the maximum amount of rest which the particular child may need. By watching the result of the original arbitrary schedule, one may then add either more rest or a gradual increase in activity as the case demands. Rest is the greatest single therapeutic measure in heart disease. Gradually increasing activity is almost equally important in the growing child since both are needed in order to produce a strong heart muscle with normal function.

The tentative diagnosis of rheumatic heart disease in this patient necessitated (1) the outlining of a sensible regimen, (2) the removal of foci of infection, and (3) careful and repeated observations of his progress in order to establish the correct diagnosis. If there had been any fever or other evidences of activity of infection, such as rapidity of pulse, joint symptoms, chorea, or subcutaneous nodules, absolute bed rest would have been prescribed. As it was, the boy was limited to half a day in school with two hours bed rest after the noon meal. His afternoon activity was very limited at first, but then increased gradually. The simplest guide for parents is the avoidance of fatigue. If the child shows dyspnea or palpitation after exertion or fatigue at the end of the day, it must be assumed that he has gone beyond the tolerance of his heart for exercise. In this patient we were able to increase his activity rapidly enough so that in two months he was playing games with other boys without any untoward symptoms resulting therefrom. However, he was still receiving added rest in bed in the middle of the day. During these two months he gained a pound and a half in weight. Since it has been shown that weight gain, increasing tolerance for exercise and increasing vital capacity of the lungs all give parallel curves upward in a patient whose cardiac function is increasing, we felt justified in accepting the boy's weight gain and rapid increase in tolerance to exercise as a good sign and one which favored the diagnosis of a relative insufficiency rather than an organic mitral disease. Children with rheumatic valvulitis who are showing cardiac symptoms rarely improve so rapidly on such a regimen. Meanwhile his dental caries had been attended to and the patient felt much better. His only complaint was an occasional fleeting pain in his arms or legs. His heart sounds were definitely improved in quality, while the murmur was considerably softer.

Since our impression now was that we were dealing with a functional disorder, both the boy and his mother were given a more optimistic view and encouraged to continue the regimen as outlined. Although his tonsils were neither very large nor severely infected, their removal seemed indicated whether he had a rheumatic infection in which the tonsils might serve as a portal of entry or a functional disorder in which absorption of toxins from this focus of chronic infection might hinder the return to normal heart function. Therefore tonsils and adenoids were removed under a general anesthetic. His convalescence was entirely uneventful. His improvement in general well-being, his increase in weight and his tolerance for exercise all continued to show steady gain, month by month. One year after tonsillectomy he appeared to be a normally healthy active boy. Examination of his heart in the upright posture revealed normal heart sounds without any murmur. On lying down the faintest systolic blow was audible at the apex. Six months later no murmur was heard in any posture or even after strenuous exercise. For the past year and a half he has remained in good health without any symptoms or signs referable to his heart.

DIFFERENTIAL POINTS IN DIAGNOSIS OF FUNCTIONAL HEART DISORDER

I felt perfectly safe in making a final diagnosis of functional heart disorder with relative mitral insufficiency relieved by regulation of the patient's daily regimen plus removal of his foci of infection. In looking back over the whole case the following points seem to be strong evidence against a rheumatic infection: (1) The symptoms of the original acute illness were more like those of pneumonia and pleurisy than a carditis and the recovery was too rapid for a rheumatic heart infection of sufficient severity to give so loud a murmur seven months later; (2) his normal exercise tolerance test on the first visit was unusual for a rheumatic heart case which was severe enough to give symptoms; (3) his improvement was too rapid, especially his rapidly increasing tolerance for activity; (4) the lack of cardiac enlargement at any time is a potent argument against rheumatic carditis; (5) the diminishing in the intensity of the murmur during the first six months might have been consistent with an improving rheumatic heart, but not its complete disappearance in a year and a half; (6) the lack of recurrence of any single part of the rheumatic syndrome over a four-year period from eight to twelve years is unusual in a child who has had a severe rheumatic heart involvement.

I have purposely avoided saying anything about either x-rays or electrocardiographs. I am well aware that there are times when these aids to diagnosis are of extreme value, but I believe they should occupy a secondary position in the handling of children with heart disease. Many times patients are needlessly charged for expensive diagnostic tests while careful obtaining and analysis of the clinical picture as well as prolonged observation—things which are absolutely essential to both diagnosis and treatment—are neglected. In this patient an x-ray, taken two months after his first visit, showed an almost normal heart shadow, the only possible variation being a questionable slight enlargement to the left with a left border which was rather straight. A subsequent x-ray was reported as normal a year later. The cardiograph revealed a slight slurring of the R-waves in leads 1 and 2 and rather high R-waves in leads 2 and 3. Two years later it was reported as normal. These procedures added very little to the clinical picture in the case. After every possible bit of information has been gained by accurate history taking, by careful and repeated examinations, if there is any doubt about the diagnosis or the findings which might affect the course of treatment prescribed, then certainly x-rays and electrocardiographic tracings should be obtained. In many cases they are of more educational value to the physician who is studying heart disease than they are of practical benefit to the individual patient concerned.

MEDICATION

I have also neglected to say anything in regard to medication. Digitalis is not a cure-all for disorders of the heart. The patient under discussion had been given digitalis although no other therapeutic measures had been advised. Digitalis is given too often to such children, but when it is given to those who really need such medication it is rarely given in sufficiently large dosage. Time forbids any complete discussion of digitalis therapy in childhood, but because it was given without any good reason in this patient I am tempted to list the chief indications: (1) congestive heart failure; (2) auricular fibrillation; (3) persistent tachycardia; and (4) occasionally in children who show a persistently high or increasing heart rate with evidences of early insufficiency following acute carditis—that is, in patients who are verging on congestive failure in spite of complete bed rest. Auricular fibrillation and persistent tachycardia are not common in childhood. Even cardiac decompensation with congestive failure is a comparatively unusual occurrence before the age of twelve years. Consequently digitalis is rarely indicated in the group of little cardiac patients who come to the physician's office or a clinic.

COMMENT

I hope I have made it clear that such children as the boy here described deserve a most painstaking investigation of their whole history, their physical condition, and their daily regimen before any diagnosis is made and before any prescriptions are written. When this is done it will often be quite apparent that what they need is not digitalis or any other medicine, but (1) the removal or relief of some underlying disease, such as a focus of infection, an anemia, or an intolerable psychological situation, and (2) a common-sense overhauling of their mode of living to the end that they receive adequate rest first of all, followed by a gradual increase in activity.

In closing I should like to reiterate that the proof of the efficacy of treatment is a purely pragmatic one. If the rest is adequate and the allowed activity well adjusted to the capacity of the heart, then the child will gain weight, increase his tolerance for exercise, show improvement in his heart and have no cardiac symptoms. It is always astonishing to see how many of these children will coöperate splendidly in carrying out such a regimen if only the physician will take the time to explain the rationale of the treatment with simple diagrams and similes and in words which the child can understand. You cannot hope for ultimate success in treating children with either rheumatic or functional heart disease unless you attempt some sort of education both of parent and child so that the child will learn to regulate his own rest and activity to suit the tolerance of his individual heart when he is no longer under medical supervision.

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DISCUSSION

A. J. Scott, Jr., M. D. (1401 South Hope Street, Los Angeles).—Doctor Washburn's paper has some points I wish to stress.

First: The importance of a careful history of all children to be examined for real or suspected heart disease. If we are in a hurry or have to secure the history from a garrulous parent, time and patience may be required to get the essential facts.

Second: The physical examination requires all technical points to be carefully correlated to the history. I agree with Doctor Washburn regarding the nonnecessity of x-rays and the electrocardiograph in the majority of cases. Too often dependence is placed on these laboratory aids rather than on history and careful physical study. In auscultation we use a bell stethoscope with a soft rubber collar which fits the child's chest better than a rigid bell. This shuts out outside sounds, limits the quality of the underlying sounds to the more typical tones.

In children basal murmurs are usually due to some congenital lesion, or from pressure on blood vessels by adjoining structures which may be enlarged. In this latter condition the quality of the murmur changes with change of the child's position. In the congenital lesion other signs are usually associated.

Rheumatic lesions are rare in children under five years old. In children over five years an apical murmur has definite significance. A soft systolic blow, not transmitted is usually functional. It increases or decreases with change of position and, as we have found, may be heard at one examination and be absent at a later time. The child Doctor Washburn has described has a borderline type of murmur which might readily be considered as due to a crippling of the mitral valve. His careful study and observation of the child brought out the true condition. The child was made a useful member of society where otherwise he might have been a "mental" cardiac cripple.

I wish to emphasize what has been said regarding diagnosis and prognosis. Rest is important. Exercise, as it can be tolerated, must be instituted. The psychology of the child must not be overlooked and optimism must permeate everything said and done. Parents must be educated regarding the exact nature of the child's heart condition so that they may coöperate and not hinder the physician in his treatment. Children have been harmed unwittingly and unnecessarily who had only a functional murmur because the growing child's heart and the normal sounds for the various ages have not always been recognized.

Medical students must be taught what is normal in a child's heart before they are taught what are abnormal sounds. What may be an abnormal sound in an adult may be a normal sound in a child.

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Harold K. Faber, M. D. (Stanford University Medical School, San Francisco).—I am particularly impressed with Doctor Washburn's discussion of the significance of cardiac murmurs in childhood. The pendulum of opinion regarding them is swinging back again to a mid-position. From the early days of stethoscopy when all murmurs were interpreted as evidences of pathology, we have seen it veer about to a belief that most systolic murmurs in childhood are "functional" and of no significance. Such a view is obviously obscurantist. Every murmur has a cause and it is desirable to ascertain that cause, or at the least to determine its relationship to the patient's condition. Sometimes this is impossible, but frequently a reasonable surmise can be made. The term "functional" is misleading, implying as it does that no organic pathology or pathological physiology exists; and the term "accidental" is even worse, implying an entire absence of causation. It is a much sounder view that every murmur is due to some pathological disturbance, the seriousness and permanence of which remain to be determined. In many instances such disturbances are, of course, transient; in others, while not transient, they are not of serious import; in still other instances, such as Doctor Washburn mentions, they may be early evidence of serious and lasting disease. The casual dismissal of murmurs as of no significance, therefore, is unjustified and dangerous, and constitutes a neglect of the physician's duty to his patient. Painstaking study of each patient, as Doctor Washburn has recommended, is the only method which safeguards the patient's interests.

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Edward B. Shaw, M. D. (University of California Medical School, San Francisco).—Our chief concern in the handling of cardiac conditions in childhood is not with the heart, but with the patient. Too often in our concern over the minuti of physical examination—murmurs, deviation from normal in the electrocardiogram and x-ray—we lose sight of the patient's general well-being. There is no question, of course, with regard to the patient with abnormal heart findings who consistently has an elevation of temperature and pulse; this patient belongs in bed whatever final diagnosis may be arrived at with regard to his cardiac condition. One sees many patients, however, who on physical examination are found to have murmurs which it is hard or impossible to differentiate from those caused by organic lesions but whose general physical condition is perfectly normal in that they are free from fever, tachycardia, breathlessness and increased fatigability, who seem to be, apart from their heart murmur, perfectly normal children. One should, of course, attempt to arrive at a precise diagnosis, but to restrict exertions beyond the avoidance of extreme fatigue is a mistake. It is usually unwise to characterize these patients as having heart disease, as this often leads to a mistaken apprehension on the part of the parents and an unwholesome coddling of a child who is perfectly well able to take full part in the struggle for existence. It is needless to say that this does not preclude every attempt to eliminate obvious foci of infection or defects of hygiene and nutrition. Many borderline cases require and should have repeated observations over a period of months. A certain amount of deliberation in arriving at a diagnosis is well justified, but this period should be energetically devoted to the general upbuilding of the patient.

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Doctor Washburn (Closing).—I am very grateful for the discussions of Doctors Faber, Scott, and Shaw. While I am in complete agreement with Doctor Shaw that our chief concern should be with the patient as a whole rather than with the heart alone, yet I am anxious to restate this fact in a different way. Doctor Faber says that "it is a much sounder view that every murmur is due to some pathological disturbance." These two statements may be made consistent if we say that every cardiac abnormality points to some pathological disturbance somewhere in the child and that only by considering such children as complete individuals rather than simply as cardiac patients may we hope to find the source of the trouble and administer adequate treatment.

ETHICS*

By Charles A. Dukes, M. D.
Oakland

ETHICS, according to Webster, is a treatise on morals; moral principles, quality or practice; a system of moral principles.

Ethics is the region of the sublime, high and clear above all the disputations of philosophies, far removed from the pettier aims of mere financial betterment.

Definitions have a double edge and a peculiar facility for injuring the user, but it may be said that ethics is the science of the moral conception and its relation to conduct. When it is remembered how widely variant even today are the moral conceptions of different people, and how remarkably antagonistic are the delineations of right conduct—"the vices of Piccadilly being the virtues of Peru"—it is evident that the subject requires clear thought and guarded speech.

Ethics is closely akin to metaphysics. The Scotch description of a metaphysician, "a man talking about something he did not understand to people who could not comprehend a word he said," is too near a popular conception of the truth not to raise a semi-approving smile.

The department of ethical thought considers especially the actions of human beings with reference to "right" or "wrong"; their tendency to recognize "good" or supposed "evil." The words "right" and "good," therefore, come in as important factors in any consideration of the subject. But "right" means primarily according to rule, and "good" implies that the thing so spoken of is serviceable to some end. "Thus," as John L. Mackenzie suggests, "when we say that the science of ethics is concerned with the 'rightness' or 'goodness' of human conduct, we mean that it is concerned with the consideration of the serviceableness of our conduct for some end at which we aim and with the rules by which our conduct is to be directed in order that this end may be attained."

Ethics rests on the assumption that men are prone to criticize themselves and others, to admire or condemn those things which impress them as being respectively praiseworthy or blameworthy.

ITS APPLICATION TO INDUSTRIAL MEDICINE

In applying ethics to industrial medicine, the quotation from Mackenzie has an especial application. Criticism has been expressed of the physician who, in his endeavor to secure the business of some large insurance carrier, has tried to achieve his desire by various questionable means. It would seem that to use other means to secure appointments than that of ability as an industrial surgeon is questionable ethics. Such tactics as the sending of an expensive gift to the representative of a large insurance concern who is about to contract for the care of a large amount of work in order to secure his influence for that contract would be equally as wrong as for a physician to furnish an agent an automobile on Saturdays and Sundays that the agent might have the pleasure of this luxury without cost to himself. My thought is, that the use of any material means of influencing these insurance carriers is unethical.

The object of the law which created a department of industrial medicine and surgery was to protect the working man by providing him with the best medical and surgical attention and to protect industry by seeing that this medical and surgical attention was provided at a reasonable cost. Seemingly, there has crept into the practice of providing this medical and surgical attention, a considerable competition so that the practice of obtaining this work is by various means of personal attention to the getting of this business, rather than the thought of the quality of service that is to be given to the injured patient.

The Industrial Accident Commission is to be commended most highly in its formulation of the just rules and regulations that would insure the best medical and surgical attention that could be given to the patient. The insurance department is to be commended in its attitude toward the medical profession by accepting the fee table that has been adopted by the State Medical Association and accepted by the Industrial Accident Commission.

There seems to be a tendency upon the part of some insurance companies and on the part of some industries that are carrying their own insurance to get this service for as small a fee as possible, at least to discount the adopted fees. On the other hand, the medical man is not entirely free of criticism in attempting to do or to take care of more work than he can possibly give his best attention, or from a possible tendency to make more treatments than is demanded by the case in hand. In suggesting ethical conduct for a physician or in criticizing the ethical conduct of the insurance carrier, we must be careful to have our own moral attitude of such a high type that fault cannot be found with the service we are rendering. One is proud to say that he believes that the average attention given by the medical profession today is of the highest ethical standard and that the relationship between the industrial worker, the industry, and the physician on the case, is being better understood.

It is hardly possible in the time allotted to go further into details regarding ethical conduct of the industry, the insurance carrier, and the physician and surgeon, but it is proper and possible within the time assigned to speak of a few of the salient features of this triangular association.

At all times the surgeon should strive to obey the Golden Rule in his conduct and relationship with other medical men. Many a heartbreak and misunderstanding difficult to efface, if allowed to remain, have been created by the removal of a patient from one physician to another. A thorough understanding of such situations can be had very easily. The means of adjusting these misunderstandings can be easily arrived at if one simply telephones the other physician and gets an understanding from him as to why a certain patient is being transferred from his care or to his care as the case may be. As you know, the rights reserved by the commission, the rights that are given to the industry which is paying for the care, and the rights of the patient himself, are to be taken into consideration. It may be that the patient himself is dissatisfied and requests the change. It may be that the insurance carrier is displeased and requests a change, and it may be that the Industrial Accident Commission has found it advisable to request a consultation. One should not feel that he is the only individual concerned in the case; he should try to have sufficient tolerance to bridge over the situation and have it adjusted with the approval of all concerned.

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* Chairman's address, Industrial Medicine and Surgery Section of the California Medical Association at the fifty-ninth annual session at Del Monte, April 28 to May 1, 1930.

There should be no criticism of the industrial surgeon who is doing good work and is earnest in his endeavor to return the patient to his regular work as early as possible, and who appreciates the loss to the industry and to the industrial worker from physical disability.

So it behooves all industrial surgeons to make a study of the requirements of industrial medicine and surgery, as a thorough knowledge of these requirements will remove criticism and establish a thoroughly ethical situation.

The practice of industrial medicine and surgery is not the simple matter that it seems to many physicians. Large industrial concerns must have well-organized medical departments in charge of competent medical advisers. Many applications for industrial positions come from physicians who have never received any industrial training, who have reached that period in their medical activities when they feel that they would like to do something easy, where a practice can be brought to them without the exertion of great effort upon their part. Consequently they look toward the industrial positions as an easy means of profit. The recent graduate often feels that he ought to have a part in this industrial program. Both these types should know good industrial surgery requires a considerable training in this particular branch of medicine. To know when a man who has been injured can return to work; what his limitations are; what the relationship between his present injury and his previous condition has to do with his disability, and the length of time that will be required to get him back into his regular line of work; to be able to designate between the malingerer and the man who has so shocked his nervous economy that he has lost all confidence in himself, but is still thoroughly honest in his belief that he cannot work, takes very special training. The ethics involved in this situation are the surgeon's responsibility to the industry, to the worker, and to himself.

Do not do cheap work, but strive to do the best work for the least cost. It will be surprising what a splendid relationship will then exist between the industry and the medical profession. Command the respect of the industry by an example of sincerity and honesty and the industrial world will acknowledge that the ethics of the medical profession is an ethics to be admired. There is nothing to belittle in medical ethics. We should so protect our moral professional standing that it will be admired by all and again restore the confidence in the medical profession that has been the inheritance of ages.

601 Wakefield Building.

THE LURE OF MEDICAL HISTORY

CALIFORNIA'S FIRST MEDICAL HISTORIAN, VICTOR JEAN FOURGEAUD, A.B., M.D.*

PART II

By J. Marion Read, M. D.
San Francisco

And so day after day across uncharted prairie the little party of four pressed onward. Perhaps during the month of May, Doctor Fourgeaud thought often of the first National Medical Convention then being held in Philadelphia; the meeting which he had mentioned in his recent article [11] as giving opportunity to organize the medical profession for mutual help and protection. But little benefit could such an organization be to him now or even after he arrived at his destination. He was dependent solely upon his own wits and forethought. And in California, also, when, and if, he arrived there, he could make his own way.

Through the weeks of June and on into July the overland immigrants toiled toward the great mountains of the sunset. August must have found them crossing the arid western plateau and before September was passed they were going down the tree-covered Pacific slope.

It was General Sutter's habit to keep a record of events at the fort and one item reads, "October 3-9 arrival of immigrants,—Gerke, Fairchild, Fourgeaud, and Beston." [13]

The doctor probably remained at Sutter's Fort long enough for the general to be impressed with his scholarly attainments, for Eldredge says that in March of 1848 Sutter sent a specimen of gold to Fourgeaud at San Francisco with the request that the doctor test it chemically to ascertain if it were pure metal.

On October 20, Doctor Fourgeaud and his family arrived at Yerba Buena. He lost little time in starting to practice, for in the *Californian* of November 17, 1847, appears this:

> "Medical Notice
>
> Doctor Fourgeaud has the honor to offer his professional services to the citizens of San Francisco and its vicinity. Office at Jones' Hotel." [15]

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*Second annual address delivered before Stanford Chapter of Alpha Omega Alpha, May 17, 1930.

Thus this finely educated physician from the city of St. Louis came and offered his expert services to the five hundred souls living around Yerba Buena Cove, "of whom more than half were natives of the United States" (Hittell).[14] In so doing he became the second physician here, John Townsend having come the previous year.

It was shortly thereafter that Doctor Fourgeaud and Dr. W. C. Parker, surgeon of Stevenson's regiment, attended a sailor who had a large chest wound. During the operation Doctor Fourgeaud inserted his hand into the thoracic cavity and took the heart in his hand to settle the disputed question of whether the heart sounds were produced within the organ itself or by its striking against the chest wall. The sailor recovered.[15]

While Doctor Fourgeaud was ministering to the ills of the seven hundred inhabitants of the infant city he was at the same time making many friends. When the city council ordered an election of school trustees for February 21, 1848, Doctors Fourgeaud and Townsend, Mr. Ross, John Sivine, and William Heath Davis were elected.[16] The facsimile reproduced herewith tells the remainder of this story except that the school was located on the north side of Portsmouth Square, then called the Plaza, and that it opened on April 3, 1848.

The inquiring mind of Doctor Fourgeaud and his trained powers of observation had given him considerable information about the natural resources of California, a subject to which he seems to have paid particular attention. So when the *Star* wished to print an authoritative description of the agricultural, mineral, and commercial possibilities of the new country our pioneer physician was asked to write it, although he had arrived less than six months previous.

One of the purposes of the *Star* was to distribute this "booster literature" in the East and thus cry to the world the glories of the new country which had but a few months before become United States territory.

In preparation for his task; to better acquaint him with the physical characteristics of the country, whose attractions he was to set forth, Doctor Fourgeaud made a trip about San Francisco Bay in March, visiting the lateral valleys of Santa Clara, Sonoma, and Napa. Thus prepared, our author undertook in his characteristic way, an exhaustive exposition of the resources and advantages of this part of Uncle Sam's new country.

The first two sections of this "Prospects of California" filled six columns of the *Star* and two thousand copies were sent eastward on the inaugural trip of the California Star Express, April 1, 1848. The Express, which also carried letters at one dollar each, was guaranteed to reach Independence, Missouri, in sixty days.

The historians Bancroft, Eldredge, and Hittell, each mention "The Prospects of California," Hittell stating that "The merchants of San Francisco, in March 1848, paid Sam Brannan, publisher of the *California Star,* to print a number of his paper for circulation on the Atlantic Slope, etc."[14]

A few paragraphs from Doctor Fourgeaud's article are reprinted here to show his keen perception and his prognostic ability.

> "Our flourishing little town is destined one day to become the manufacturing metropolis and the commercial emporium of Western America.
>
> "It would be utterly impossible at present to make a correct estimate of the immense mineral wealth of California. Popular attention has been but lately directed to it. But the discoveries that have already been made will warrant us in the assertion that California is one of the richest mineral countries of the world."
>
> "We have one of the most healthful territories on the continent and, setting its mineral wealth aside, it may be made one of the richest agricultural countries in the world."

Although agriculture was but crudely practiced in a small way here eighty-two years ago, Doctor Fourgeaud was able to discern that the unknown possibilities of California's fertile valleys would ultimately yield greater wealth than the mineral-bearing ore of her mountains.

And to silence those Missourians who had wagged their heads questioningly the year before, he wrote:

> "We deem it almost necessary to add that the favorable opinion we had of this country when we started from the States has not in the slightest degree changed. On the contrary, since our arrival here we have been gradually becoming more and more convinced that the step we have taken will never be regretted by us. California has been misrepresented by some, but the time is at hand when proper justice will be done to this fair region of the globe."

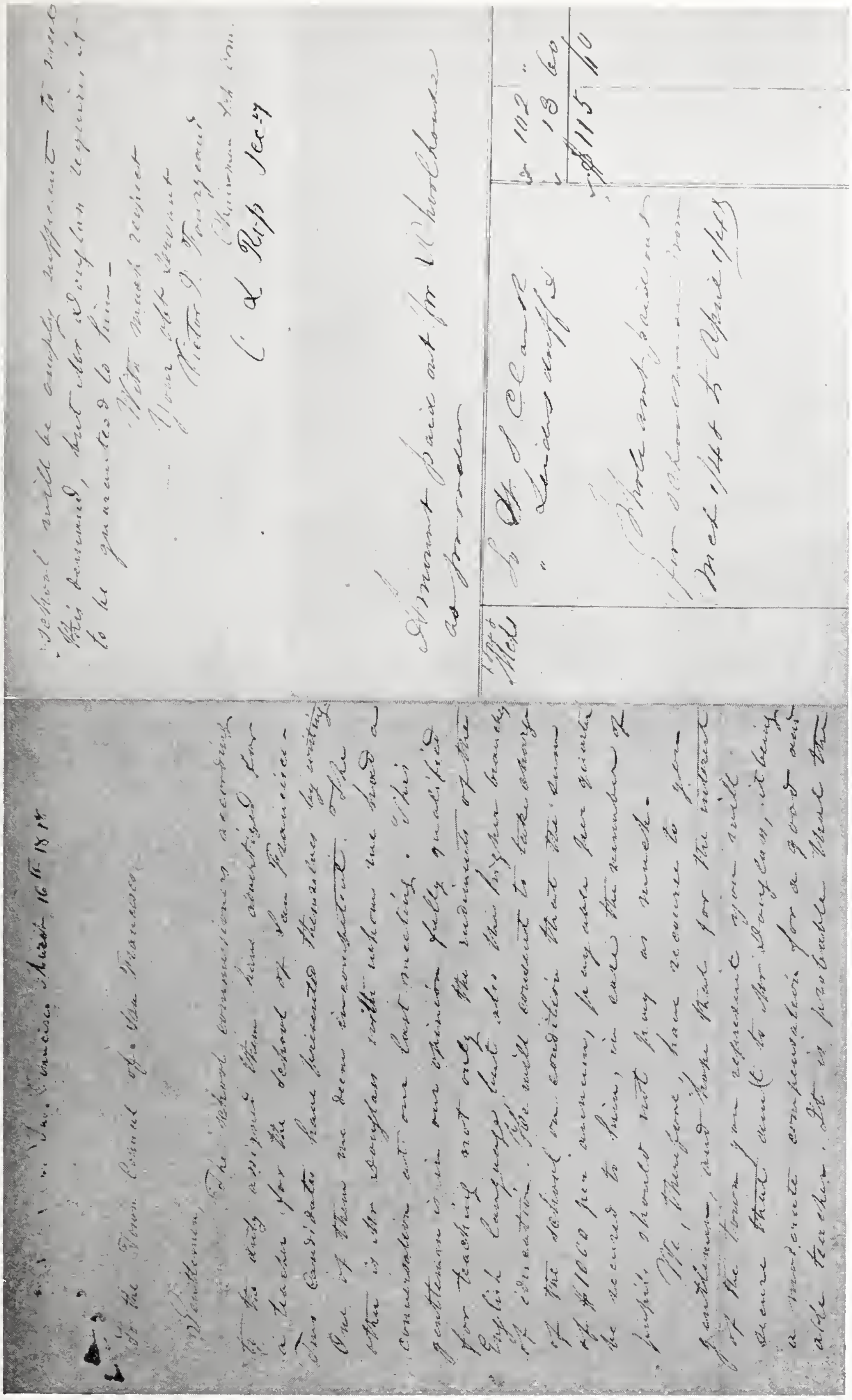
Time has demonstrated the correctness of Victor Fourgeaud's estimate of the relative value of California's mineral and agricultural wealth. But while his predictions were being penned, whisperings at Sutter's Fort were beginning to take on proportions which soon raised them to the cry of "gold" heard round the world.

This tumult rendered superfluous the remaining installments of his exposition. The essayist himself dropped his pen to join in the wild rush to the diggin's. He, with two friends, started in June for the Yuba River, but at their camp on Bear Creek the doctor was taken ill with "the fever of the valley." After his long illness they returned in September to San Francisco, having accomplished nothing.

Doctor Fourgeaud did not then resume his practice, but instead engaged in merchandising. In November 1849 he made a visit to his family home in North Carolina, returning here in August 1850. Interests other than medicine continued to engage his time until 1853, when he departed for Europe.

These peregrinations would seem to indicate that Dame Fortune had smiled rather warmly upon the doctor turned merchant.

When Doctor Fourgeaud returned in 1855 from his European sojourn he entered a new field of activity—politics. The following year he was elected to the state legislature, where he served one term. For five years he continued to reside in Sacramento, where he held considerable property which apparently occupied his mind, for he did not resume practice.



San Francisco March 16th 1848

To the Town Council of San Francisco

Gentlemen,

The school commissioners according to the duty assigned them have advertised for a teacher for the school of San Francisco - Two candidates have presented themselves by writing. One of them we deem incompetent. The other is Mr Douglass with whom we had a conversation at our last meeting. This gentleman is in our opinion fully qualified for teaching not only the rudiments of the English language but also the higher branches of education. He will consent to take charge of the school on condition that the sum of $1000 per annum, payable per quarter be secured to him, in case the number of pupils should not pay as much.

We, therefore, have recourse to you gentlemen, and hope that for the interest of the town you represent you will secure that amount to Mr Douglass, it being a moderate compensation for a good and able teacher. It is probable that the school will be amply sufficient to meet this demand, but Mr Douglass requires it to be guaranteed to him -

With much respect
Your obt Servant
Victor J. Fourgeaud
Chairman Sch Com.
C L Ross Secy

Amount paid out for Schoolhouse as per order

1848 Mch	To W S Clark	$102	..
	" Leidesdorff	13	60
		$115	60
	Whole amt paid out for Schoolhouse from Mch 1848 to April 1848		

Facsimile of letter written by Doctor Fourgeaud on March 16, 1848. As Chairman of the School Trustees, he reported to the council that the first school in San Francisco had been built and a teacher selected. (Reproduced by courtesy of John Howell, publisher of "Seventy-Five Years in California" by William H. Davis,.)

How Fate holds us in her hand—how chance determines whether or not our well-intentioned preparation shall bring its reward is illustrated in the following episode in our hero's life.

During 1856, when Doctor Fourgeaud was not practicing his profession, there descended upon the children of his locality an epidemic of sore throat with a very high mortality. But let Doctor Fourgeaud tell it.[17]

"During the autumn of 1856, the mortality among children in several counties around the Bay of San Francisco assumed an appalling character. It was attributed to an affection of the throat, and few children attacked by it recovered. Some considered the disease a variety of Scarlatina Anginosa, others, a new form of Croup, etc., etc., and the manner in which it terminated, (by an offensive discharge from the mouth and nostrils,) caused it to be denominated Putrid Sore Throat by the community at large. Among the districts which suffered most from it was that of Sonoma. A friend of mine had lost three of his daughters within a few days. A letter from him, informing me of his misfortune, stated also that his two remaining daughters were lying ill with the dreadful scourge. Although I was not at that time practising my profession, I determined at once to hasten to the assistance of the afflicted family. I arrived too late, however, for one of the still surviving daughters, whom I found in 'articulo mortis,' was beyond the resources of our science. I at once diagnosticated the disease to be well characterized Pharyngeal Diphtheritis, such as it had been described by the eminent French pathologist, Bretonneau, of Tours, and, since then, generally recognized by the medical world as a distinct disease. Subsequent observations have fully confirmed the opinion I then promulgated.

"I must confess that I have been not a little surprised to find that a disease so well characterized, so distinct from all others, should have led to so many differences of opinion among members of the profession in California.

"Satisfied, however, that my diagnosis was correct, and encouraged by the wonderful success with which Bretonneau's treatment had been attended in similar epidemics, I did not hesitate to place my main reliance on local cauterization, and, like him, I selected muriatic acid as the agent. The result proved even more satisfactory than I could reasonably have anticipated. Of all the cases that have come under my observation from that time until now, (there are still some sporadic cases among us,) with the exception of the one mentioned, which had passed the period of possible recovery, not one has terminated fatally. Indeed, so successful has been this treatment in California, when resorted to early, that I now consider Pharyngeal Diphtheritis, such as it has been observed in this State, amongst the most manageable, and, when properly attended to, least fatal of diseases. But this prognosis depends on the early correctness of the diagnosis and treatment. I feel that I cannot too urgently insist upon this point, which is, indeed, of vital importance. So thoroughly was I already convinced of this, that I deemed it a duty to give immediate publicity to my views."

Doctor Fourgeaud's intent was to help save the children of the San Francisco bay region, but some of the active practitioners objected to his diagnosis. Dr. Lorenzo Hubbard,[18] President of the San Francisco Medico-Chirurgical Association, sprang into the fray to dispute Doctor Fourgeaud's contentions, even to denying the communicability of this disease. He also contended that "the disease denominated diphtheritis by Bretonneau and others, is clearly the secondary form of croup."

Dr. James Blake asserted that it was "a systemic disease deriving its origin from a peculiar poison generated in the atmosphere."

With all this Doctor Fourgeaud had little patience, so he sat him down and wrote a forty-four-page brochure citing authorities to support his diagnosis and confound his critics. And when pens were chosen as weapons Fourgeaud was no feeble opponent.

A perusal of this pamphlet will convince anyone that Doctor Fourgeaud was correct in his diagnosis. He had learned to recognize diphtheria in France, where Bretonneau had described it as a distinct disease thirty years earlier. It is this small monograph, of all his writings, which has placed Victor Fourgeaud's name in the medical history of the United States, where he is credited with having a part in establishing the identity of diphtheria.

In February of 1862 Doctor Fourgeaud returned to San Francisco and again took up the practice of medicine. He appears as co-editor of the *Pacific Medical and Surgical Journal* for this year, along with his erstwhile opponent in polemics, James Blake.

Evidently a truce had been made, for Doctor Blake has an article in the March number on diphtheria[19] in which he concedes that "It is novel—it bears certain superficial resemblances to other diseases, which, however, it is not." But this is all he will concede, for he goes on to insist: " . . . when Trousseau, Barthez, and Boncher, the chiefs of the local French school, have acknowledged their error in regarding Diphtheria as a local disease and are agreed as regards its treatment, the small essayists of medical societies and provincial journals, will cease to advise either a purely local treatment or calomel for constitutional symptoms."

The constitutional manifestations of diphtheria stood out foremost in Doctor Blake's mind, which seemed unable to grasp the conception of a localized lesion producing toxic symptoms at distant parts of the body. Doctor Fourgeaud had no such difficulty. While he admitted the widespread symptoms in diphtheria, he insisted that it was a disease with the primary lesion in the throat.

Doctor Fourgeaud contributed but one article to this volume. But this—"Tetania or Tonic Contractions of the Extremities"[20]—was done in his characteristic thorough style. He correctly diagnosed the case, giving it the name under which the condition was then discussed, and reviewed the literature from 1831, when it was first described.

From his complete description I surmise the case was one of tetany in a rachitic child, and it is noteworthy that, although Doctor Fourgeaud changed medicaments several times, he never discontinued the cod-liver oil which he had prescribed at the outset, and which was undoubtedly the factor which led to the child's recovery.

During 1863 Doctor Fourgeaud was sole editor of the *Pacific Medical and Surgical Journal.* Aside from his editorial writings, his name appears only once as author of a medical article, "Cases of Spontaneous Salivation."

But during this year he began the serial publication in this journal of his magnum opus—a history of medicine under the modest title, "Historical Sketches." This was continued and concluded in Vol. VII (1864), running to about fifty thousand words, and was a most ambitious and praiseworthy piece of work. It has been commended by others[21] and I will do no more than to say that it was no repetition of his other work, "Eclecticism in Medicine," published eighteen years previously in St. Louis. The text is quite different and his abundant footnotes contain numerous references to works printed in the interval.

We know little more of Victor Fourgeaud except that his name appears sixth on the list of the Society of California Pioneers and that he was on the executive committee of the San Francisco Medical Benevolent Society for two years prior to his death on January 2, 1875.

His wife survived him for eight years and a daughter some years longer, but there are no descendants. Dr. George Lyman traced some of his effects, only to discover that they had been regarded as worthless by the persons to whom the daughter had left them and so they had been burned.

But that, after all, is a small matter. Even a reproduction of his likeness could not add to the picture we have of this highly educated and cultured physician; this intelligent and energetic argonaut. It was men of his caliber that Sam Walter Foss had in mind when he wrote of "The Coming American." The first line of one of its verses, reproduced here, has been carved into the façade of one of the Capitol buildings at Sacramento.

Bring me men to match my mountains
  Bring me men to match my plains,—
Men with empires in their purpose
  And new eras in their brains,
Bring me men to match my prairies,
  Men to match my inland seas,
Men whose thought shall pave a highway
  Up to ampler destinies,
Pioneers to clear Thoughts marshlands,
  And to cleanse old Error's fen,
Bring me men to match my mountains,
  Bring me men!

In answer to that call of his adopted state came Victor Fourgeaud, a man whose humanity and culture were as deep and broad as California's great valleys and whose integrity was as high as her loftiest peaks.

490 Post Street.

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CLINICAL NOTES AND CASE REPORTS

DIATHERMY IN THE TREATMENT OF AMEBIASIS

REPORT OF CASE

By Hall G. Holder, M. D.
Clyde J. Osborne, M. D.
and
Viola Sommermeyer, B. S.
San Diego

Application of heat in some form in the treatment of disease is found in the earliest records. The detrimental effect of slight alterations of temperature on cultures of pathogenic bacteria and parasitic organisms is well known. Illustration of the latter is seen with the spontaneous discharge of nematodes during the course of infectious diseases with high fever. Thus the possible therapeutic benefit of intra-intestinal application of heat suggests itself and has been used successfully in the treatment of amebic dysentery by De Rivas.[1] This author reports a series of cases benefited by the thermic effect of colonic flushings with salt solution 45 to 47 degrees centigrade. No basic originality is, therefore, claimed in this report, only the method of application of the heat, namely, by the diathermy current. However, this feature seems important to us in view of the work of Boeck,[2] who demonstrated by the eosin-staining criteria that the thermal-death point for endameba histolytica cysts to be 68 degrees centigrade. Temperatures far exceeding this point may be generated by this method, thereby permitting certain sterilization.

REPORT OF CASE

H. M. A., male, age thirty-two, was admitted to Mercy Hospital August 21, 1928, following a two months' illness with amebic dysentery. The patient had become progressively worse in spite of treatment, and was losing weight and strength rapidly.

A sigmoidoscopic examination of the rectum on admission presented numerous small discrete ulcerations with a grayish white base. The mucosa was markedly injected and dotted with numerous punctate hemorrhagic areas. Fig. 1 indicates a characteristic microscopic field with findings from specimen on admission.

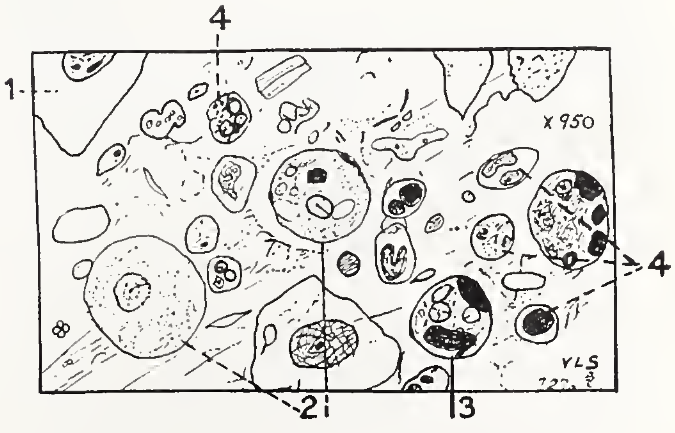

Fig. 1.—Specimen taken during a proctoscopic examination. 1. Epithelium. 2. *Endameba dysentriae*, active. 3. *Endameba dysenteriae*, cyst. 4. Pus.

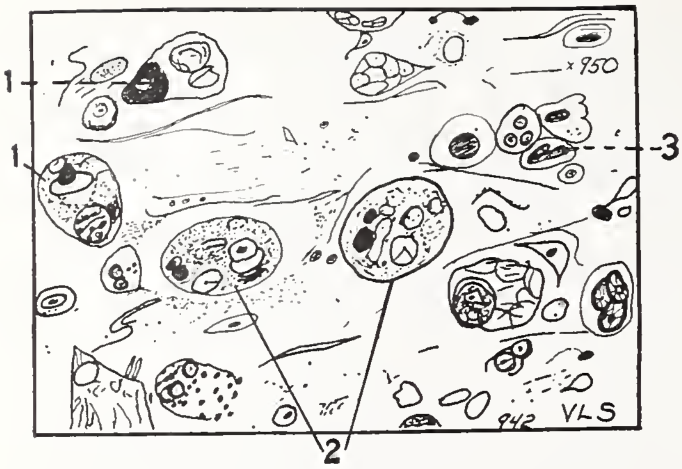

Fig. 2.—1. Degenerate body cells. 2. *Ameba dysenteriae,* cysts. 3. Pus.

For the following three weeks the patient became progressively worse in spite of a variety of medication, passing numerous blood-stained stools. There was increasing weakness and anemia, with thirty pounds loss in weight. Blood count at this time showed 2,500,000 red blood cells with a 48 per cent hemoglobin (Dare).

At this time surgical consultation was asked with a view to transfusion and possible cecostomy to permit rest for the large bowel and to facilitate treatment in the form of lavage. On the twenty-fourth day after admission, transfusion was done with marked immediate benefit. Improvement was so marked that operative procedures were deferred. On the fiftieth hospital day the patient's general condition was much improved, his red blood cell count being 4,080,000, hemoglobin 60 per cent (Dare), although the local symptoms of diarrhea, melena and tenesmus persisted, in spite of continued and diversified medical treatment. Laboratory examination of the stools at this time is visualized in Fig. 2.

Because the patient had apparently become drug "fast," other methods of therapy were considered and the use of heat by means of the diathermy current tried. Treatments were given for three consecutive weeks at six-day intervals. The technique was as follows: A prostatic rectal electrode with thermometer was passed to varying depths into the rectum. The indifferent electrode of block tin, measuring four by five inches, was placed on the abdominal wall over different areas of the large intestine. Treatment was given to different points for a total time of twenty-five minutes, maintaining a temperature of 110 to 114 degrees Fahrenheit in the rectal electrode. Considerable discomfort was complained of by the patient the first treatment, but this became considerably less in subsequent applications. An attempt to fill the colon with saline to act as a conductive medium was not successful because the irritability of the bowel caused evacuation. After commencing the heat therapy all other treatment was discontinued. Following the second treatment examination of the stools demonstrated only an occasional precystice form Fig. 3, while after the third application examination was entirely negative but for an occasional white blood cell. Protoscopic visualization at this time showed no ulceration of the mucous membrane, the rectum and sigmoid being entirely normal but for an occasional petechial hemorrhage. The stools were well formed, the patient symptom free, and he had gained in weight to one hundred and fifty pounds. Two months later stool examination was still negative and the patient was feeling very well with no return of former symptoms.

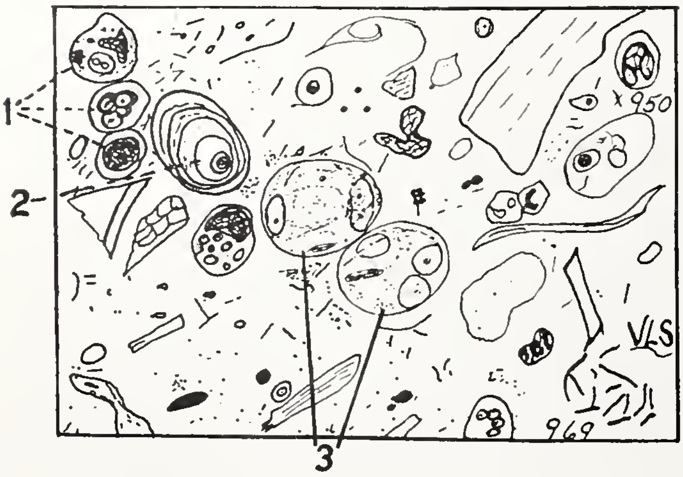

Fig. 3.—Iron hematoxylin stain. 1. Pus. 2. Starch. 3. *Ameba dysenteriae,* cysts.

COMMENT

No therapeutic deduction may be drawn from this one case especially, as the patient began improving prior to the introduction of the treatment. However, benefit seemed immediate, as indicated above, so that the method merits further investigation. Inasmuch as De Rivas reported improvement in cases treated with colonic flushing with salt solution 45 to 47 degrees centigrade, irrespective of the fact that the thermal-death point of endameba histolytica cysts has been demonstrated to be 68 degrees centigrade. This method permits of higher heat values and for that reason may prove more effective.

1109 Medico-Dental Building.

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Are Physicians Led Astray By Rebates?—A circular distributed by the Wilbur X-Ray Laboratory of Boston sets forth that "we charge your patient $2 for a single picture, $10 for a complete mouth. Promptly on the first day of each month we rebate to you the balance between these amounts and our professional rates of $1 and $5."

An attempt to make it appear that the physician can properly accept this "rebate" seems to be suggested in the statement that "they are compensated for the extra time spent in studying and analyzing x-ray cases after the return of radiographs."

This "extra time" of the doctor seems to be unnecessary because it is stated in the circular, "in each case an expert diagnosis is made by a recognized dental diagnostician" with the name of Dr. ——— attached.

If this case can be construed as less reprehensible than the so-called splitting of fees, we would like to be enlightened. It would clarify the situation if the Committee on Ethics and Discipline of the Massachusetts Medical Society could deal with this matter by a test case. Would not a physician, desirous of getting a rebate, be inclined to patronize this establishment rather than select an x-ray laboratory on its merits?

We do not find the name of the "Dr." expert diagnostician in the directory of the American Medical Association, but his name is recorded among the registered dentists of this state. It will be of interest to know whether the State Board of Dental Examiners condones the association of a registered dentist with this form of advertising.—*New England Journal of Medicine,* January 15, 1931.

BEDSIDE MEDICINE FOR BEDSIDE DOCTORS

An Open Forum for brief discussions of the workaday problems of the bedside doctor. Suggestions for subjects for discussion invited.

TREATMENT OF PNEUMONIA

D. SCHUYLER PULFORD, WOODLAND.—Pneumonia should be considered as a general systemic disease with the most outspoken local manifestations in the lungs. The cardiovascular, gastrointestinal and nervous systems bear considerable brunt of the disease through toxins brought to them via the circulation. Until antitoxins outnumber toxins the patient is very sick and uncomfortable. When this ratio is reversed, wellbeing and health is regained. This is a specific change. Recovery takes place in many cases without any treatment. Treatment, however, may shorten the disease and add to the comfort of the patient. It may be conveniently considered under the following headings:

1. Drug therapy best summed up as symptomatic and supportive.
2. Physical agents such as fresh air, oxygen, diathermy, external applications, and intravenous therapy.
3. Specific treatment, serums, vaccines, antibody solutions.
4. Complications.

(1) The chief symptoms and signs which may require drug therapy are: fever, cough, pain, abdominal distention, restlessness or delirium, circulatory failure.

Fever should be controlled, not abolished. Hydrotherapy, in the form of frequent sponges, should be used to the exclusion of antipyretics, but care should be exercised not to tire the patient by too frequent handling and turning. Aspirin, however, in small doses is beneficial as a preliminary to spongeing, and in children is just as relaxing as codein.

Cough, pain, and restlessness should be controlled, if necessary, by drugs. Steam inhalations bearing compound tincture of benzoin and menthol and eucalyptus are useful.

Abdominal distention is often an early and troublesome symptom, requiring frequent enemas, hot abdominal stupes, and a rectal tube. If persistent, one-half cubic centimeter of pituitrin one-half hour before a gas enema should be tried. No one can predict which patient will or will not respond to pituitrin.

The chief system needing support is the circulatory apparatus.

It seems to be the consensus of opinion that prophylactic use of digitalis is contraindicated in pneumonia. Miles and Wyckoff during 1928 and 1929 in the three medical divisions of Columbia, Cornell, and Belleview hospitals, in a large series of cases in New York City, adequately controlled and studied by a group of workers, came to the conclusion that "results do not justify continuing routine administration of digitalis to patients suffering with lobar pneumonia. With uniform general care and nursing and carefully controlled as to age, sex and dosage, all types except Type II gave a higher death rate with digitalis than without it.

Granting the truth of the above as to routine administration of digitalis, most clinicians select certain cases as requiring this drug. I believe that intravenous saline and glucose therapy should be tried before digitalis even in these cases as with the giving of from 1000 to 3000 cubic centimeters of normal saline or five per cent glucose in saline over a period of six to twelve hours and transfusions of 500 cubic centimeters of blood an impending "cardiac failure" is averted, indicating that perhaps we are really dealing with a vasomotor failure due to paralysis of the constrictor fibers from circulating toxins and not with a failing myocardium. The patients die from "medical shock," not from circulatory failure.

Caffein sodium benzoate in two to seven grain doses may be useful in combination with the above treatment.

PHYSICAL AGENTS

General measures are as important as drugs in controlling untoward symptoms and supporting the continued function of the several systems in danger. Absolute rest and fresh air if possible, with quiet and special nursing, with no visitors to be constantly engaging the patient's attention and spending his energy, are important.

Oxygen Treatment.—The oxygen treatment of pneumonia deserves serious consideration in all patients who tend to become cyanotic or in which edema of the lungs seems imminent. It has been shown that to prevent anoxemia 20 per cent more oxygen is required for every degree of fever over 102 degrees. In postoperative pneumonia, which in many instances is started by atelectasis, or even massive collapse, inhalation of 95 per cent oxygen with 5 per cent carbon dioxid is beneficial; and of course such inhalations should be given each patient before leaving the operative table, to prevent atelectasis and collapse. Braasch, Binger, and Roth have done much to develop apparatus with which to give oxygen efficiently. Concentrations from 40 to 60 per cent by the tent method is most practical. Failures in the past to obtain good results with oxygen treatment have been due in most part to poor apparatus and inefficient methods. Doctor Robertson, chief of the postmortem section of pathology of the Mayo Clinic, states that, "Since the introduction of the oxygen chamber and tent, I do not see any more terminal bronchopneumonia at postmortem." This statement alone should command the further use of oxygen in pneumonias.

DIATHERMY

In Doctor Crile's clinic, diathermy is thought to prevent postoperative pneumonias when given during operations and to be of benefit in early cases of pneumonia. It causes a preliminary rise and subsequent fall in general body temperature and the patient perspires, rests, and is often relieved of pain. It is contraindicated in edematous lungs and is reported to be more efficacious the earlier in the disease it is used.

It seems probable that the extreme claims of some of the physiotherapists have done much to delay its acceptance by the general internist, but they in turn would do well to talk with the physiotherapist and doctor who has used it and try it themselves before forming a final opinion.

Diathermy makes mustard plaster therapy unnecessary in the hospital. It should not be discarded by the family physician in the home, where the family as well as the patient demands consideration.

SERA

A discussion of the rational value of serotherapy and vaccine therapy in pneumonia is based on the belief of specificity of organisms in disease.

In the hands of such men as Cole, Felton, Park, and their co-workers, much has been done to develop experimentally and prove clinically the efficacy of immune serum for Type I pneumococcus.

Early diagnosis and injections of large amounts of serum reduce the mortality rate remarkably in this type of lobar pneumonia. Vaccine therapy is still of questionable value. Although vaccine therapy by Lambert in 1926 cut the mortality in Type I pneumonia from 17 to 8 per cent, it is not generally accepted as of specific value.

COMPLICATIONS

No discussion of the treatment of pneumonia is complete without honorable mention of complications, for it is the unrecognized purulent effusion which accounts for a high percentage of deaths and deaths which might well be preventable. Empyema, meningitis, pericarditis with or without effusion, and a continued septicemia account for about 50 per cent of all deaths, only half dying of the simple disease itself.

Early exploratory needling of the chest when it is really exploratory and not waiting for outspoken physical signs or undoubted positive x-ray pictures may be life-saving. Early consultation and continued coöperation with the surgeon is important in empyema.

* * *

Fletcher B. Taylor, Oakland.—A drunken man lying on the cold ground is liable to contract pneumonia. His drunkenness, like anesthesia, is an independent factor which increases his susceptibility.[1] Cold environment, and particularly a sudden drop in temperature, favors the development of pneumonia.[2] To make the matter still worse, let us suppose that our imaginary subject has jaundice[3] and diabetes, that he is elderly, that he has a cold on the day of his misfortune,[4] or that he has a failing heart function. Suppose, also, that a policeman tries to rouse him by kicking his ribs.[5] Each one of these premises represents a factor which will predispose him to pneumonia. Yet, he may escape without it, and live to sorrow over the death of a stalwart friend of perfect conduct and excellent health.

As physicians, we may grope a little further into the factors which govern the incidence of pneumonia, the course of the disease, its treatment, and prognosis. We must no longer be content with the gross physical diagnosis and the gross physical care of the patient. It is our early duty to determine the organism at work. Then we may orient the patient and ourselves in an experience which still holds many dangers and uncertainties. From the extensive work of Cecil,[6] we know that the pneumococcus is at work in 95 per cent of cases. The other five per cent includes *Streptococcus hemolyticus, Bacillus influenzae,* Friedlander's bacillus (*B. mucosas capsulatus*), *Staphylococcus aureus,* and some others more rarely found. Cecil's statistics give us other valuable working guides. If the patient is young, his pneumonia is probably Type I pneumococcus; if elderly, it is probably Type III. If the patient is a man, Types I and II are more to be expected than Types III or IV. The physician quite properly shrinks from disturbing his patient more than necessary, but, in spite of this reserve, he must proceed from probabilities to certainties. Sputum must be collected as early as possible. If there is no available sputum, a swab of the pharynx after coughing is usually diagnostic. The Sabin mouse test[7] for the type of pneumococcus requires only three or four hours. Type I must be recognized for its importance in treatment, a matter which is discussed in a succeeding section. If Type I pneumococcus is not found, recognition of other types or of other organisms is essential in order to observe and prognose intelligently. Types II and III have a higher mortality than Types I and IV, roughly: 40 per cent as against 30 per cent. *Streptococcus hemolyticus* causes 40 to 60 per cent mortality, and empyema will occur in one out of three cases. Friedlander's bacillus pneumonia is always fatal. *Staphylococcus aureus* pneumonia carries a liability to empyema and to lung abscess. When bacteremia is found, the patient has only 15 per cent chance for recovery. Other predictions may be made. Regardless of organism, the patient has one chance in two of healing by crisis. Patients less than twenty years old have 11 per cent mortality as against 53 per cent for those over sixty years. These and other data are available if we appraise the patient and discover the organism at work.

The concept of "cause" suggests "prevention" and in pneumonia, prevention is to some extent possible. We can encourage proper care of the common cold and can at least urge patients to avoid the other predisposing causes suggested above. We can prevent most instances of atelectasis and massive collapse occurring after surgical operation. We can encourage good health in nurses caring for pneumonia patients, knowing that the mouths of attendants more often contain pneumococci than do the mouths of the general populace.[6]

To summarize, pneumonia is an illness which usually represents the collusion of several adverse biologic factors all of which focus on a common target, the lung tissue. One factor which may serve as a guide for treatment and for prognosis is the type of organism which predominates. Knowing something of the causes, it is our duty to encourage reasonable preventive measures.

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* * *

Roy E. Thomas, Los Angeles.—A discussion of lobar pneumonia can be depended upon nowadays to bring up two moot questions in the management of this disease: First, the use of digitalis, and second, the employment of specific sera.

Regarding digitalis our experience on the pneumonia ward of the Los Angeles General Hospital is of interest. For a period of four and one-half years patients were admitted alternately to the two services into which the ward was divided. All cases of lobar pneumonia on one service, 239 in number, were rapidly digitalized; of these 81 or 33.4 per cent died. On the other service there were 363 cases, none of which received digitalis; of these 68 or 18.7 per cent died. These results are even more striking than the more carefully controlled experiment of Niles and Wyckoff mentioned by Dr. Pulford.

In the face of these statistics it would require considerable temerity to advocate the administration of digitalis to pneumonia patients except in those comparatively rare cases which develop auricular fibrilation or flutter, or the occasional case with a history of previous myocardial failure.

The specific treatment of pneumonia still leaves much to be desired. It is effective only in cases caused by pneumococcus Types I and II, which together comprise only about 50 per cent of all cases. To be of value serum must be used early and in large amounts. Felton's concentrated serum is probably the best available at the present time. Its use is not entirely without danger. Nevertheless all pneumonia patients should be typed as soon as possible and have early blood cultures as advocated by Dr. Taylor.

Of the greatest importance in the management of the pneumonia case is rest for the patient. All too often he is disturbed by visitors, too frequent chest examinations by the physician, or the ministrations of an over zealous nurse. Particularly tiring is the daily cathartic or enema which the pneumonia patient, whether at home or in the hospital, seldom escapes. For the past year no patient on my service at the Los Angeles General Hospital has been given either cathartic or enema during the critical stage of his illness, whether this lasts three days or nine. When the patient gets well enough to worry about this apparent neglect he is given a mild cathartic or an enema if the bowels do not move spontaneously. Since the adoption of this plan I believe we see fewer cases with troublesome abdominal distention. When this dread symptom does occur it can best be controlled by the liberal use of pituitrin.

Of the serious complications of lobar pneumonia, empyema is, of course, the most frequent. We try to make the diagnosis early, but we are in no hurry to transfer the case to a surgical service. When fluid in the pleural cavity is suspected, an x-ray film is ordered. If this confirms our suspicions, the aspirating needle is used to determine the character of the fluid and to withdraw a sufficient amount to relieve pressure symptoms, if these are present. Nothing more is done until we are quite sure that the acute pneumonic process in the lung has subsided. Then, and only then, is the case turned over to the surgeon for closed drainage or rib resection. Many a life has been lost by hasty surgical interference in empyema. Occasionally repeated aspiration of the pus results in cure. Antiseptics such as gentian violet have proved of doubtful value in the infected pleural cavity.

Abscess of the lung was formerly thought to occur not infrequently following pneumonia. It is probable, however, that in the majority of instances these cases were lung abscesses from the start and due to some agent other than the pneumococcus. I do not recall a case of abscess in which blood culture showed the pneumococcus at any stage of the illness. Regardless of its etiology acute abscess of the lung should be treated conservatively at first. Anything more radical than bronchoscopic drainage should be avoided until the case "cools off." Probably half of these cases recover without surgery.

Pneumococcus meningitis is a comparatively rare complication. We have treated two cases by repeated spinal puncture, drainage, and injection of ethylhydrocupreine; both died. Recoveries have been reported following spinal drainage with the injection of serum. We have had no experience with laminectomy and constant drainage as practiced by Danby and others.

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Leaflet Regarding Rules of Publication.—California and Western Medicine has prepared a leaflet explaining its rules regarding publication. This leaflet gives suggestions on the preparation of manuscripts and of illustrations. It is suggested that contributors to this journal write to its office requesting a copy of this leaflet.

EDITORIALS*

SIXTIETH ANNUAL SESSION OF CALIFORNIA MEDICAL ASSOCIATION CONVENES AT HOTEL FAIRMONT, SAN FRANCISCO, APRIL 27-30, 1931

High Points in the Career of the California Medical Association.—On March 12 in the year 1856, at Sacramento, under the presidency of the late Dr. B. F. Keene of El Dorado, the California Medical Association under its then name of "Medical Society of the State of California," came into existence.

During the Civil War its organization work lapsed, but in 1870, under the presidency of the late Dr. T. M. Logan of Sacramento, the society again came into active existence, holding its meeting that year in the city of San Francisco.

In 1924, in order to conform to the usage of other state units of the American Medical Association, the Medical Society of the State of California changed its name to "California Medical Association," and since then has been known by that name.

* * *

The 1931 Annual Session Will Convene in San Francisco.—Commencing Monday, April 27, 1931, through Thursday, April 30, the California Medical Association will hold its sixtieth annual session, with headquarters at the Hotel Fairmont, San Francisco.

The official notice, with hotel rates, was printed on page 129 of the last month's number of CALIFORNIA AND WESTERN MEDICINE. It was therein stated that it was desirable to make hotel reservation as promptly as possible.

* * *

Complete Scientific and Other Programs in April CALIFORNIA AND WESTERN MEDICINE.—In the next month's issue of CALIFORNIA AND WESTERN MEDICINE the usual special presentation of this prospective annual session will be printed, with full details concerning scientific program, business sessions, entertainment and other features. It may be proper to state at this time that the chief departure from last year's annual session at the Hotel Del Monte will be the institution of clinics which will be concentrated on Tuesday and Wednesday mornings, at the Medical Schools of the Universities of California and Stanford.

* * *

Hotel Reservations Should Be Made Now.—This preliminary notice is printed because so often members who attend find themselves seriously inconvenienced by not having made hotel reservations in ample time.

This sixtieth annual session at San Francisco gives promise of being one of the most notable annual get-together reunions which the members of this great California Medical Association have ever had.

* * *

Attendance at Annual Sessions of Great Value.—It is again urged that members of the California Medical Association who are not in the habit of attending these annual sessions, make an opportunity to do so. There has never been a time when there was so much need of members of the medical profession meeting one another and discussing with one another personally their mutual problems at the present time.

San Francisco and the Bay Region offer means and facilities without end, so that every moment of the time away from home can be most profitably and enjoyably spent according to the mood of each individual. So once again let us all strive to make this sixtieth annual session at San Francisco not only an outstanding session because of the high character of its scientific and other work; but also because of a larger attendance than has ever before been registered at an annual session, and because of the development of a good fellowship spirit that will make for a better understanding of the problems which confront the medical profession.

CRUDE INHERITANCES STILL EXIST IN CALIFORNIA'S LUNACY LAWS—CERTAIN REVISIONS ARE MUCH NEEDED

The Special Article by Hunter in This Number of CALIFORNIA AND WESTERN MEDICINE.—Among the special articles of this number of CALIFORNIA AND WESTERN MEDICINE is one by Dr. George G. Hunter of Los Angeles. The attention of readers of California and Western Medicine is directed to Hunter's presentations of certain needed revisions of the lunacy laws of California, because members of the medical profession should lead the way in pointing out to lay citizens of the State of California the brutality which may still be said to exist somewhat in California, through certain nonrational and unscientific methods of handling mentally sick fellow citizens. Dr. Hunter's article will be found in the current number of California and Western Medicine, page 163.

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* Editorials on subjects of scientific and clinical interest, contributed by members of the California Medical Association, are printed in the Medicine Today column which follows.

* * *

The Deplorable Record of Man's Treatment of His Mentally Sick Fellows.—The sad and horrible story of the mentally sick being chained to floors and posts under the supervision of brutal caretakers and constables, practically as if they were the worst of criminals, is still of too recent a date in the annals of occidental civilization, to be forgotten or ignored. As a matter of fact, some of the deficiences of our modern day lunacy laws in not a few instances are nothing less than the after-effects of some of these irrational procedures of the past.

Hunter's criticism is well founded when he states:

" . . . That the determination of sanity, the disposition of the insane, their treatment and management should be submitted to final decisions of lay persons in the form of our usual jury seems to the scientific medical man or any intelligent thinker not only an absurdity but a travesty upon justice. . . ."

* * *

What Some of the Proposed Amendments Aim to Accomplish.—The lunacy law amendments which will come up for consideration at the present session of the California Legislature have been carefully worked over by a group of professional and lay citizens who have long been interested in these problems in which the mentally sick and their families and friends are so intimately involved. One has only to read the recommendations and the explanatory comments of this committee and then ask one's self what one would wish the procedure to be, if a member of one's own family were mentally sick, to lead one to get into line in full support of the revisions which are advocated.

Among medical men, who presumably ought to know what is needed more than any other class of citizens, very few, if indeed any, would insist upon the stigma of arrest being placed upon every such mentally sick person coming before the courts for examination.

And who among members of the medical profession would urge the necessity of throwing a person, charged with being mentally sick, practically into jail or prison?

Or who would demand a public hearing, in the presence of the citizen who was so charged with being mentally sick, with all the coarse brutality of such a proceeding?

In attempting to establish amendments such as are outlined, there was no desire on the part of the committee of which Dr. Hunter is chairman, to in any way lessen the protection which the law should throw about the person and rights of every citizen, in relation either to himself or to his fellow citizens.

One of the amendments seeks to make it possible for a mentally sick citizen, of his own volition, to apply to a county psychopathic hospital for admission for diagnosis and treatment, just as do other citizens who apply for admission to the medical and surgical wards of county hospitals. That certainly seems a fair proposition.

So also an amendment will be proposed to use the word "apprehended" instead of the term "arrested," since to the word "arrested" clings a real stigma, if once it can be attached to any individual.

* * *

The Council of the California Medical Association Is in Accord With These Lunacy Law Revisions.—The above comments are here made in the hope that readers of California and Western Medicine who might otherwise pass over the article by Dr. Hunter will be tempted to turn back the pages and scan it more carefully. Any aid that can be given to Dr. Hunter and his committee will be greatly appreciated. The council of the California Medical Association at its meeting on January 31, 1931, was so impressed with the desirability of these amendments that one thousand reprints of the article by Hunter in this issue of California and Western Medicine were ordered printed as an expression of the interest and approval of the California Medical Association, to be used by the committee in carrying on its educational campaign in these matters.

CALIFORNIA LAWS RELATING TO COUNTY HOSPITALS

Referring to the Santa Maria Hospital—State Medicine Episode.—In the February number of California and Western Medicine, page 120, was discussed in this column a peculiar state of affairs which had arisen at Santa Maria in Santa Barbara County. Santa Maria is a community of some 15,000 population and the Santa Maria Hospital at that place "was built and is maintained by county money." The chairman of the Board of Supervisors of Santa Barbara County, Mr. C. L. Preisker, saw fit to launch a proposition that was practically an expression of state medicine, as a perusal of his letter as printed on page 121 of the February number of California and Western Medicine will clearly indicate.

* * *

A Recall Petition Has Been Circulated for Supervisor Preisker.—The result of that effort, insofar as the medical profession was concerned, was expressed in part in the action of the Santa Barbara Society as noted on page 121 of the

February issue of California and Western Medicine. So far as the citizens of Santa Barbara County are concerned we have been informed that "there is a recall petition out in Santa Maria against Mr. Preisker" and that "more than enough signatures have been secured to go through with it. However, a recall cannot go through until June or July, which is six months following his going into office."

* * *

A Somewhat Similar State Medicine Problem in Orange County.—It may be of interest in connection with the Santa Maria-Santa Barbara complex to quote from a letter from Doctor N. D. Newkirk of Anaheim, Orange County, who tells of some of the difficulties which Orange County is facing in these matters:

> "I have just read your editorial on the action of the supervisors of Santa Barbara County in openly making a bid for business below cost. We here in Orange County have had to face the same condition and have become very anxious about the matter.
>
> "It is the law here too, I believe, that County Hospitals are for indigents. The supervisors elect to say, however, that indigents are not merely the hopelessly poor, but are rated according to a sliding scale of earnings. The whole question hinges around what the term indigent legally means. Our County Hospital here now contains over twice as many patients as all the pay hospitals in the county, and they collect a very considerable amount of cash from patients. They even handle industrial conditions, and I understand that certain corporations have specified to their men in charge that injured men be sent at once to the county hospital as the rate there is low. Once in, it is hard to get them out. The unfortunate phase of the whole thing is that the physicians and surgeons are asked to donate their services and are expected to do so. As long as we foolishly continue to do this I see no remedy.
>
> "It would please us all if the state medical society would get under this matter and make a test case in court. If it appears that the supervisors are legally allowed to go into business in competition with the private hospitals and that the public at large is permitted to have hospital care in county hospitals for less than cost, then the various staffs of these charity hospitals will know what action to take."

* * *

A Digest of the California Law on County Hospitals, Which Is Printed in This Issue.—The basic law of California relating to county hospitals and the class of citizens eligible thereto is but little understood by members of the medical profession. Through the courtesy of Dr. Neal N. Wood, superintendent of the Los Angeles County Hospital, the editor is able to present in this issue of California and Western Medicine, excerpts from official state and county correspondence dating back for some ten years or so. Some of the references to the legal codes which are made therein will enable county society committees which are interested to secure for themselves the full text of these laws. The excerpts which are printed in this number of California and Western Medicine will be found in the Miscellany Department, under the caption "California Laws Regarding County Hospitals," (see page —).

Members of the California Medical Association who are interested in this important question, and practically all members should be, if they scan the refrences above referred to, will be able to acquaint themselves with some of the difficulties and intricacies of these county hospital problems, which are assuming such great importance to both members of the medical profession and of the public.

PROPOSED LAWS BEFORE THE PRESENT CALIFORNIA LEGISLATURE

The Usual Deluge of Proposed Public Health Legislation.—A list of proposed laws which have been submitted to the Forty-ninth California Legislature which is now in session, as compiled by Chairman Harris of the California Medical Association Committee on Public Policy and Legislation, is printed in the Miscellany Department of this number of California and Western Medicine (see page 223).

A glance at that list shows its formidable character. Also how great must be the amount of time and effort given to an inspection of these measures, by those of our officers who have special responsibilities in these matters.

* * *

Future Discussion of These Proposed Laws Will Be Made.—At the meeting of the council of the California Medical Association held on January 31, a very considerable discussion was given to the more important of these proposed laws. At the time of this writing, it is a bit early to state which of these contemplated statutes contain provisions inimical to the best interests of organized and scientific medicine and of the public health. In the second half of this Forty-ninth Legislature, which is now in session, it will become somewhat more apparent as to where danger may be expected. In a later issue and before adjournment of the legislature, various measures of special interest will be discussed in this column. In the meantime, members who are interested in certain bills should write for copies. For reference purposes, a list of state senators and state assemblymen is printed in the Miscellany Department of this issue (see page 224).

A Layman's Interest in Medicine.—Mr. Earle P. Charlton who, by reason of unusual business ability and industry amassed a large fortune, has shown his appreciation of the importance of medicine and the service rendered by physicians by incorporating in his will an endowment of $500,000 for the Truesdale Hospital in Fall River in addition to a direct bequest to this hospital to be used in cancellation of debts accrued previous to January 1, 1926.

Tufts College will receive one-third of about one million dollars for research work in the medical department.

This is an illustration of the educational influence of hospitals and practitioners of medicine in attracting the attention of successful business men to the wisdom of supplying adequate support for institutions devoted to the alleviation of human suffering.—***New England Journal of Medicine,*** December 4, 1930.

MEDICINE TODAY

This department of California and Western Medicine presents editorial comment by contributing members on items of medical progress, science and practice, and on topics from recent medical books or journals. An invitation is extended to every member of the California, Nevada and Utah Medical Associations to submit brief editorial discussions suitable for publication in this department. No presentation should be over five hundred words in length.

The Specific Gravity of the Urine.—The specific gravity of the urine is an accurate measure of the number of dissolved particles within it. The greater the urinary volume, the lesser the concentration of the dissolved particles, and hence the lower will be the specific gravity. A normal kidney will respond to forced fluid intake by the elaboration of urine with a specific gravity as low as 1:001. The specific gravity of water being 1:000, it is evident that such urine contains very few dissolved particles. If the volume of urine is decreased, the dissolved substances will be more concentrated, and the specific gravity of the urine will be high. If the amount of water brought to a normal kidney is sufficiently decreased through any cause (e. g., decreased intake, loss of fluid by vomiting or diarrhoea, retention of fluids in the tissues in edema, etc.), a urine with a specific gravity of at least 1:026 will be excreted.

Normally, the waste products are concentrated many times on their passage from blood to urine. Urea, for example, has a "concentration ratio" of 65; uric acid, of 30; creatinin, of 35. In renal impairment, the concentrating ability of the kidney for all the urinary constituents is early decreased. This means that under no circumstances can a urine be elaborated in which the waste products are as highly concentrated as they may be normally. The specific gravity determination offers an easy method of directly measuring their concentration, and hence the functional capacity of the kidney. Thus a simple test may be evolved which yields a maximum of information with a minimum of laboratory equipment and discomfort to the patient. It is necessary that the urinary volume be small enough to insure the highest concentration of dissolved solids which the kidney under suspicion can effect.

Fishberg recommends the following procedure: The patient takes his usual supper, containing about 200 cubic centimeters of fluid, at six o'clock on the evening preceding the test. After this he neither eats nor drinks until the test is completed. Before retiring, the bladder is emptied and the urine discarded. On awakening in the morning he voids, and keeps the urine in a separate container. One hour later the bladder is again emptied, and yet a third specimen is obtained one hour after this, if possible. This completes the test. If there is no renal impairment, the specific gravity of at least one of the specimens will reach 1:024 or higher. In severe renal insufficiency the values will not exceed 1:010, while in intermediate instances figures between these limits will be found. However, three factors must be considered as possibly influencing the results: (1) If edema is being evacuated, the specific gravity may be lowered because of a larger urinary volume. (2) Cardiac weakness often causes nocturnal polyuria which may influence the result in the same manner. (3) Albumen in the urine may cause high specific gravity values. If the albuminuria is over 0.5 per cent. correction should be made by comparison with a prepared table (see *Journal of the American Medical Association* 94, 1885. June 14. 1930): if under that. it may be disregarded.

Certain axioms of diagnostic import may be stated:

1. In spite of increased values for nitrogenous substances in the blood, if the urine has a specific gravity of 1:026 or more (corrected for albuminuria if over 0.5 per cent), renal function is unimpaired.

2. A urinary specific gravity of 1:020 or over makes the diagnosis of uremia very doubtful under any circumstances.

3. In cardiac decompensation, the blood chemistry values may be increased, and the urine contain albumin and casts. If the urine, however, has a high specific gravity, the diagnosis of nephritis is not justified.

Albert H. Elliot, Santa Barbara.

Dermatological Progress.—The 1930 meetings of the American Dermatological Association were held in Cleveland. Of the many interesting papers was one by Doctor Stokes, which brought out clearly the relationship between gastro-intestinal conditions and various skin diseases. His subject covers part of his studies, including the consideration of the effect of emotion on the skin by way of its action on various visceral nervous circulatory and other biologic mechanisms.

"The patient whose digestive tract has reacted to nervous stress and in doing so has established repercussions in his skin, is not ideally treated unless side by side with the corrective measures just described; he is dealt with as a personality problem." Stokes closed his remarks by stating: "The larger our experience and the more careful our search the more we are inclined to believe that in the urticarias and urticarial dermatitides of middle life, in the diathetic eczemas and rosacea, and even in dermatoses which, like epidermatophytosis, seem far removed from psychologic considerations, the tension make-up, the personality defect, the conflict and anxiety, the repression and the complex, have their places as causal influences, to be sought out and rectified side by side with, and sometimes even before, the correction of the more apparent physical dysfunctions."

Another interesting paper was that of Carroll S. Wright on "Nonspecific Therapy in Dermatology." This included a comprehensive discussion of *autohemotherapy, milk proteins, nonspecific vaccines* and *turpentine.* Autohemotherapy as an adjunct to local therapy in psoriasis has been found to be of definite value. It is also useful in certain cases of chronic urticaria. Milk preparations are useful at times in furunculosis and carbunculosis; also in some types of itching dermatoses. In eczema, acne, and psoriasis they have been distinctly disappointing. Nonspecific vaccine therapy is of some value in psoriasis—a streptococcus fecalis—*Bacillus coli* vaccine being recommended for office use when a mild nonspecific action is desired. Turpentine injections are of value in the treatment of trichophyton infections and certain bacterial infections. Way has been using turpentine by injection for several years in treating, successfully, such cases.

Harry E. Alderson, San Francisco.

Hypertonic Glucose Solutions for the Relief of Increased Intracranial Pressure.—That it is possible to lower the cerebrospinal fluid pressure by the intravenous injection of hypertonic solutions was demonstrated by Weed and McKibben and Weed and Hughson.[1] [2] The first practical application of this fact was shown by Haden, using concentrated solutions of glucose. The same results, though less pronounced, were shown by Cushing and Foley [3] [4] by the oral or rectal administration of sodium chlorid solutions. Later, Fay found that the intestinal administration of magnesium sulphate was twice as efficient as sodium chlorid for the reduction of intracranial pressure. This is explained by the fact that magnesium sulphate is nondialyzable and sodium chlorid is readily so. He also demonstrated that the continued administration of sodium chlorid may produce a secondary wave of edema and increased intracranial pressure due to its absorption and immobilization in the tissues with a subsequent attraction of fluid from the blood stream.

Howe,[5] in an effort to determine what hypertonic solutions were least toxic and most efficient in lowering intracranial pressure when given intravenously, tested a dozen or more substances. Some were found too toxic and others ineffectual. He found that sodium chlorid produced the most pronounced decrease in intracranial pressure of any substance used, but is toxic unless given very slowly. He also found, as did Fay, that due to absorption of the salt in the tissues, there was a secondary wave of edema and an increase in intracranial pressure. He found that dextrose was absolutely nontoxic and never resulted in the slightest disturbance of respiratory or cardiac action, no matter how much or how quickly it was given. Fifty cubic centimeters of a 50 per cent solution given in less than a minute had no untoward effect. He concludes "that dextrose is the only substance of this group which is nontoxic and produces a satisfactory fall in intracranial pressure." The practical application of this fact for the relief of increased intracranial tension as applied to head injuries and intracranial tumor is obviously most valuable.

In the treatment of acute head injuries, hypertonic solutions play an important rôle whether or not surgical interference is undertaken.[6] Hypertonic glucose solution may be used as an aid to decompression in the reduction of cerebral edema, or in cases in which expectant treatment is adopted, it may by the reduction of intracranial pressure, render operation unnecessary. In the milder cases of concussion in which surgical interference is not indicated, it tends to promote recovery and diminish the tendency to sequelae. The treatment of head injuries by hypertonic glucose solution is a rational form of therapy, taking the place of magnesium sulphate which has been employed in a similar rôle for several years.

The indications for the employment of the hypertonic solutions in cases of intracranial tumor are chiefly for diagnostic purposes, as an emergency method of treatment, and for palliation. A patient suffering with a brain tumor, not uncommonly is in a semi-comatose condition when first seen. Several intravenous injections of 50 per cent glucose solution may be sufficient to restore consciousness, thereby making a complete examination, and localization of the tumor possible. If a patient with a brain tumor suddenly becomes comatose, an intravenous injection of a hypertonic solution may reduce the intracranial pressure sufficiently to enable operation to be done. Lastly, in cases awaiting operation or in inoperable cases the headaches and vomiting are often relieved by the use of hypertonic solutions.

The points in favor of the use of 50 per cent glucose are:

1. Its hypertonicity; reducing intracranial pressure.
2. Its small bulk.
3. Its usefulness in combating shock.
4. Its lack of untoward effects.
5. The rapidity with which it may be given.
6. Its food value.

Leo J. Adelstein, Los Angeles.

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[1] Weed, L. H., and McKibben, P. S. Pressure Changes in the Cerebrospinal Fluid Following Intravenous Injections of Solutions of Various Concentrations. Am. J. Physiol., 48, p. 512, May 1919.

[2] Weed, L. H., and Hughson, W. Systemic Effects of the Intravenous Injections of Solutions of Various Concentrations with Especial Reference to the Cerebrospinal Fluid. Am. J. Physiol., 58, p. 53, November 1921.

[3] Cushing, H., and Foley, F. E. B. Alterations of Intracranial Tension by Salt Solutions in the Alimentary Canal. Proc. Soc. Exper. Biol. & Med., 17, p. 217, 1920.

[4] Foley, F. E. B. Clinical Uses of Salt Solutions in Conditions of Increased Intracranial Tension. Surg. Gynec. Obst., 33, p. 126, August 1921.

[5] Armour, Donald. Some Considerations on Head Injuries, Brain, 51, p. 427, December 1928.

[6] Brain, W. R., and Strauss, E. B. Recent Advances in Neurology. Philadelphia, P. Blakiston's Sons & Co., 1930, second edition, p. 100.

Oak Poisoning — Its Proper Treatment.— Poison oak dermatitis often calls for the use, both phylactically and prophylactically, of its specific antigen for treatment. The active principle is effective whether it is extracted in 95 per cent alcohol, as Strickler and Spain recommend, or if extracted in almond oil, as Lederle recommends.

It is more vital here than in other specific therapeutic measures to properly dose this exceedingly active antigen. Overdosing the patient will lead to aggravation of the symptoms one is attempting to relieve. Underdosing the patient will be ineffective in establishing an immunity. The proper dosage can be determined by a modification of the patch test as described by W. C. Spain and Robert A. Cooke, as follows:

"In the center of the gummed surface of a square of adhesive tape 5.0 by 5.0 centimeters, there is placed a disk of white blotting paper 0.3 centimeter in diameter, but separated from the gummed surface by a square of glazed paper 0.5 by 0.5 centimeter. The paper disk, which is cut from ordinary white blotter with a paper punch, is then saturated with the alcoholic extract to be tested, exactly five drops being used, measured from the point of a 26-gauge hypodermic needle. The gummed surface of the square of adhesive is then applied to the skin, thus bringing the blotting paper disk, while still saturated with the alcoholic extract, into intimate contact with the epidermis. The flexor surface of the forearm is usually chosen, because of the more delicate texture of the skin in this region and because of its accessibility. The surface to be tested is given no previous preparation.

"Dilutions in absolute alcohol of the standard water-free extracts are used for the tests in strengths of 1:5, 1:10, 1:20, 1:50, 1:100, and 1:500. It is found that cases can be separated in general according to the degree of reaction into the very sensitive, in which positive skin lesions can be obtained to a 1:500 dilution; the moderately sensitive, in which positive reaction is obtained with a 1:100 or 1:50 dilution, and the slightly sensitive, which requires a 1:10 dilution to cause a positive reaction. The great majority of cases fall into the moderately sensitive group.

"As a rule, the 1:100 dilution is used for the first tests, three of which are applied. The patient is instructed to remove the first patch at the end of two hours, the second after four hours, and the third after eight hours. At the removal of the patches, the application sites should be thoroughly scrubbed with soap and water to prevent reexposure. Although the test sites are usually negative at the time of removal, especially the two-hour patch, the patient should watch the sites carefully and note the time any reaction appears, as shown by itching, tingling, erythema, papulation, or vesiculation. In this manner, not only can the presence of a susceptibility to poison ivy be determined, but also variations in the rate of absorption of the irritant by the skin and variations in the length of the incubation period necessary for the full development of the typical lesions. Since the incubation period has been shown to vary considerably in different individuals, the site should be inspected, if negative at the first reading, for at least a week before a final decision is made. No case is considered positive unless there is vesiculation with erythema and local itching. Plus signs with the usual interpretation are employed to describe the degree of reaction."

There is a wide discrepancy between the clinical evidence of the individual degree of skin sensitiveness and the actual skin sensitiveness as determined by the patch test.

This surprising but not unknown fact in immunological problems is clearly illustrated by critical interpretation of the findings.

The prophylactic treatment can be begun at the first visit and followed as outlined. The patch tests can be made at the same visit. The phylactic treatment can be carried on by using extremely small quantities, 1/10 of 1/1000 frequently. These additional precautions are simple to carry out once the dilutions are made. This will not only insure successful immunization but will also avoid the disagreeable results of overdosage.

Edward Matzger, San Francisco.

Treatment of Squint.—Advice regarding the treatment of squint is usually sought from the pediatrician or the family doctor. Mothers are frequently told to wait from one to twelve years before consulting an oculist, whereas the essence of success, here as much as in carcinoma, lies in early treatment.

The absence of a fully developed fusion faculty is the basis of all squints. Vision in the new born is uniocular, as it is in most animals, and until the age of six months the two eyes work entirely independently of each other. At this time the normal child learns to fuse the two images, seen by the right and left eyes respectively, making depth perception, to mention only one factor, very much more accurate. With fusion fully developed, ordinary squint is impossible. In children who are allowed to squint for some time, a new process occurs. The fixing eye is obviously the one with which the child sees better. Therefore the image seen with the squinting eye is less distinct, and, for a time, some of these children may see double. This diplopia is overcome by concentrating on the clearer image, while disregarding the other, and eventually the image of the squinting eye is suppressed. In this way the poorer eye becomes blind, to all intents and purposes.

Treatment does not consist merely in getting the two eyes in the normal parallel position, but in first restoring vision to the squinting eye; second, teaching the child to fuse the two images, and third in securing a cosmetic result. In many cases this can be done by giving the child proper glasses, so that he has normal vision in each eye, since the stimulus to fusion secured by two equally sharp images is enough to allow normal development of fusion. I have seen children only eighteen months old, who gladly wore glasses, since they were more comfortable, and saw better with them. Certainly by the third birthday they should have a proper correction, determined by retinoscopy, with the eyes atropinized. Should glasses alone fail to correct the squint, the squinting eye must be made to work, either by periodically bandaging, or instilling atropin into the fixing eye.

Our last resort is surgery, but this, too, should be done early, since fusion can be learned much more readily before the age of seven. In fact some authorities state that it is never acquired after that age. Since normal development of fusion is our chief object in operating, the sooner it is done the better, provided other methods of treatment have proved inadequate. Whether or not fusion can be trained, all ordinary cases of squint can be cosmetically corrected, and this in itself is of great importance, to the happiness and success of the individual. The recent popularization of the O'Connor operation gives us a more accurate and simpler method, while it is much easier for the patient, since the unoperated eye may be used about thirty-six hours after operation, and after-care is much less complicated.

Samuel A. Durr, San Diego.

Industrial (Congenital) Hernia and Compensation.—Nothing is more erroneous than the general belief among some physicians and the laity that muscular effort is the cause of hernia. The popular idea of the *modus operandi* is that a sudden or long-continued muscular effort, in some unexplainable manner, causes a pressure on the abdominal contents, and this in turn forces a knuckle or loop of intestine to make a passage through the solid abdominal wall, regardless of the intricate network of muscles and fascia effectively arranged to prevent just such an accident. How anyone can seriously believe that a soft, velvety, collapsed coil of intestine can suddenly assume the hardness of a cold chisel and accomplish something the human finger cannot do is beyond my comprehension. It is a well-known fact that the finger cannot be forced through the internal inguinal ring if there is no empty sac opening into the abdominal cavity.

Once the internal ring relaxes or enlarges, and a tongue or wedge-shaped piece of omentum gains an entrance, it is an easy matter for the mass to dilate the internal ring to a point where it has no ability to *come back* or regain its *tone, and the* protection of the semi-sphincter action of the internal oblique and transversalis muscles and Poupart's ligament is lost. Once past the internal ring, the hernia rapidly dilates the inguinal canal on its way to the external ring.

In 1817, Cloquet, a French anatomist, in the course of 500 dissections found a depression of the lower border of the internal ring with more or less bulging of the peritoneum. He called this "the infundibuliform process," and found it so often that he thought it a normal condition. We now know that he found an open processus vaginalis.

The obliteration of the processus vaginalis is best studied during hernia operations on infants and children. When the processus vaginalis is obliterated only in its lower half or two-thirds, it is easy to find a well-marked fibrous cord springing from the fundus of the sac at its lowest point. This cord can be traced down in the spermatic structures to the tunica vaginalis testis. Sometimes this obliterated portion of the processus vaginalis resembles the tail of a kite; often a well-defined mass of scar tissue is the dividing line between the open and the obliterated portion of the processus vaginalis.

Attention could also be called to the need on the part of the general practitioner and the laity for more information on the causes of industrial hernia in the light of modern research. The quickest way to impress on the doubting physicians the soundness of the congenital origin of ordinary oblique inguinal hernia is to insist on bilateral operation for every patient—an empty sac will be found on the supposedly *sound* side in 75 per cent of the subjects.

The State Industrial Commissions have been slow to accept the scientific facts that have been established as the cause of hernia by surgeons who have had very large experience in this work. Probably there is no claim paid in which the employer is so entirely free from responsibility as in the case of ordinary industrial hernia.

Leigh F. Watson, Los Angeles.

Aptitude Tests for Prospective Doctors.—In compliance with requests from various parts of the United States that the University of California submit all students expecting to enter medical colleges during the year 1931-32 to a "medical aptitude test," prepared by the Association of American Medical Colleges. Dean George D. Louderback of the College of Letters and Science announced recently that such a test will be given.

Dean Louderback explains that, while the University of California has not yet adopted the "medical aptitude test" as a requirement for entrance to its medical school, forty-three of the leading medical colleges of the country have already done so, and Dean Langley Porter requests that all juniors and seniors expecting to enroll in any medical school take this test.

No special preparation is necessary for the test. The fee charged by the Association of American Medical Colleges will be paid by the university, so that no expense will fall upon the students.

The general purpose of the "aptitude test" is to select from the group of prospective medical students, which is always larger than the number admitted, those individuals who will best carry on the work expected of them in the medical school.

In content the test may be compared to a specialized intelligence test intended to measure the student's ability to understand and profit by the courses making up the medical curriculum. It is a test of a student's comprehension, memory, judgment, and general intelligence.—*U. C. Clip Sheet.*

STATE MEDICAL ASSOCIATIONS

CALIFORNIA MEDICAL ASSOCIATION*

LYELL C. KINNEY........................President
JUNIUS B. HARRIS........................President-Elect
EMMA W. POPE........................Secretary

ERRATA

Minimum Requirements for *"Roentgenotherapy"* not "Roentgenography" is the title of Dr. H. J. Ullmann's article which was in the February 1931 issue of California and Western Medicine, page 73.

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"Daily" in the report from the State Board of Health statistics on poliomyelitis quoted by J. C. Geiger, M. D., in the February issue of California and Western Medicine, page 115, should read *"weekly."*

COUNCIL MINUTES

Minutes of the One Hundred and Ninety-Sixth Meeting of the Council of the California Medical Association

Held in the Indian Room, Hotel Ambassador, Los Angeles, Saturday, September 27, 1930, at 10 a. m.

Present.—Doctors Kinney, Harris, Pallette, Arnold, Duffield, Moseley, DeLappe, Phillips, Coffey, Hamlin, Peers, Hunter, Cushman, Kress, Catton, Kelly and Pope, and General Counsel Peart.

Absent.—Doctors Rogers and Ewer.

1. **Roll Call.**—The meeting was called to order by the chairman, Oliver D. Hamlin.

2. **Date of Next Council Meeting.**—Discussion was had of the date of the next meeting of the Council, and on motion of Peers, seconded by Kinney, and unanimously carried, the following resolution was adopted:

Resolved, That the next meeting of the Council be held at San Francisco on Saturday, January 31, 1931.

3. **Minutes of the Council.**—Minutes of the 193rd and 194th meetings of the Council, as mailed to all councilors, were presented for discussion and approval.

Action by the Council.—On motion of Kress, seconded by Duffield, and unanimously carried, the following resolution was adopted:

Resolved, That the minutes of the 193rd and 194th meetings of the Council, as mailed to all members thereof, be approved.

Minutes of the 195th meeting of the Council were presented. Doctor Kress stated that in order that the records might contain a detailed report on the item regarding letter from the Hewlett Club and other members of the California Medical Association on certain House of Delegates resolutions, he had prepared more amplified minutes. Doctor Kress then read the statement in full, which was accepted by the Council as a correction to the minutes.

Action by the Council.—On motion of Kress, seconded by Duffield, and unanimously carried, the following resolution was adopted:

Resolved, That minutes of items three and five of the 195th meeting of the Council regarding letter from the Hewlett Club and other members of the California Medical Association on certain House of Delegates resolutions as amended and submitted to the Council in writing be substituted for these items in the original draft.

Action by the Council.—On motion of Kinney, seconded by Harris, and unanimously carried, the following resolution was adopted:

Resolved, That the minutes of the 195th meeting of the Council, as amended, be approved.

Doctor Kress then presented the following resolution, which was duly seconded and carried:

Resolved, By the Council, that minutes of the Council and Executive Committee meetings be transcribed as soon as possible after every meeting, and that copies of the minutes be mailed to each councilor not later than fourteen days after such Council or Executive Committee meeting, unless this time limit has been extended by the chairman.

Doctor Kress then presented the following resolution on tentative drafts of minutes, which was seconded by Duffield and carried:

Resolved, By the Council, that if Council and Executive Committee meeting minutes cannot be approved within a few days at a subsequent meeting (as at annual session meetings), then when the Association secretary sends to each councilor within fourteen days after such meeting the tentative draft of the minutes of such meeting, the minutes so sent out shall always have the following notation at the beginning of such minutes. "This is a tentative draft of minutes prepared by the secretary. This draft is not official until approved by the Council. This draft is for the personal inspection and consideration of councilors only."

4. **Minutes of the Executive Committee.**—The chairman stated that the minutes of the 120th, 121st, and 122nd meetings of the Executive Committee had been mailed to all councilors and if there were no objections, he would entertain a motion for their approval without further reading.

Action by the Council.—On motion of Pallette, seconded by Harris, and unanimously carried, the following resolution was adopted:

Resolved, That the minutes of the 120th, 121st, and 122nd meetings of the Executive Committee, as mailed to all councilors, be approved.

Digests of Proceedings of Executive Committee.—Doctor Kress then presented the following resolution on digests of Executive Committee minutes for publication in the official journal, which was duly seconded and carried:

Resolved, That the secretary of the Association be instructed to prepare condensed digests of such items of business transacted by the Executive Committee as would seemingly be of special interest to members of the Association; such digests to be sent out to members of the Council, with the minutes of the Executive Committee, in order that members of the Council may be in position to suggest any desirable modifications before publication. Such digests of records of Executive Committee meetings shall be printed in California and Western Medicine and be appended to the minutes of the Council meeting at which such Executive Committee minutes are ratified. Such digests shall follow a general form as outlined in the form attached to this resolution.

Form of Digest

"Digest of the proceedings of the ——— meeting of the Executive Committee of the California Medical Association.

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* For a complete list of general officers, of standing committees, of section officers, and of executive officers of the component county societies, see index reference on the front cover, under Miscellany.

"At this meeting of the Executive Committee held on ——— action as indicated herein was taken on the following items of business:

"1. Name or nature of the item of business. Brief summary of the action taken.

"2. As above . . . etc."

5. **Financial Statements.**—Financial statements for the months of July and August 1930 were presented by the secretary and approved as submitted.

The apparent increase of expenses over receipts from April to December is occasioned by the fact that the major portion of dues of members is received during the first three months of the year.

6. **Annual Meeting.**—T. Henshaw Kelly, chairman of the Arrangements Committee, gave a progress report on arrangements for the annual meeting. Doctor Kelly stated that the present plan for clinics was that the two teaching universities would be selected and a group of clinics organized. These clinics would be held at a time when there was no conflict of meetings and should be about three hours in length. Doctor Kelly stated that by centralization of clinics it would be possible to cover about twelve subjects. The clinics would be announced in the JOURNAL and members would sign up for attendance at the time of registering for the annual meeting.

Action by the Council.—On motion duly made and seconded, it was

Resolved, That we endorse the plan outlined of having the two teaching universities maintain the clinics to be held during the mornings of the annual session and that the registration plan outlined by the chairman of the Arrangements Committee be adhered to.

7. **Public Health Exhibit.**—Letter from Fred B. Clarke, chairman of the Committee on Health and Public Instruction was read.

Doctor Kress stated that it might be advisable to create a state bureau of public health information and that this could be placed under the jurisdiction of the State Board of Health.

Action by the Council.—On motion of Kress, seconded by Hunter, and carried, the following resolution was adopted:

Resolved, That the Executive Committee in conjunction with the Committee on Public Policy, the General Counsel of the California Medical Association and representatives of the California State Board of Health, be instructed to prepare a draft for a bill to be presented at the next legislature which will provide for a "Bureau of Public Health Information," to be a bureau in the California State Department of Public Health. Said bureau of public health information to be in charge of a chief who shall be a citizen of California who holds a license to practice as a physician and surgeon; and the said bureau to be authorized to expend funds allocated to it in the dissemination of public health information through printed literature; through announcements in the public press; through radio broadcasting stations and other agencies of news dissemination; and be it further

Resolved, That when such draft has been prepared, a copy shall be sent to each councilor with request for suggestions as to changes, omissions or additions; the Executive Committee of the California Medical Association to then empower the Committee on Public Policy and Legislation to have the bill as prepared submitted at the forty-ninth session of the California legislature which will convene in January 1931.

Doctor Peers suggested that it would be well to consult with the director of the Department of Public Health since the bureau was to be placed under the jurisdiction of the State Board of Health.

8. **Medical Practice Act.**—Junius B. Harris, chairman of the Committee on Public Policy and Legislation, stated that at the coming legislature he would present before the legislative bureau the matter of adding a section to the Medical Practice Act which would require that in addition to the four-year medical education, applicants must have served one year's internship or its equivalent before being eligible for examination for license to practice medicine.

Action by the Council.—On motion of Kress, seconded by Kelly, and unanimously carried, the following resolution was adopted:

Resolved, That the Committee on Public Policy and Legislation be empowered to hold the necessary conferences to put into form a draft of the proposed amendment covering internship and that copies of the draft be sent to members of the Council prior to action being taken thereon.

9. **Director of Institutions.**—Letter from the secretary of the Napa County Society regarding the California State Director of Institutions was read.

Action by the Council.—On motion of Duffield, seconded by Kelly, and unanimously carried, it was

Resolved, That the letter be referred to the Committee on Public Policy and Legislation.

10. **Committee on Public Policy and Legislation.**—Discussion was had of the present membership of the Committee on Public Policy and Legislation, and it was the sense of the Council that the committee stand as is.

11. **Committee on Clinical and Research Prizes.**—The Secretary stated that the term of George Dock, chairman of the Committee on Clinical and Research Prizes had expired.

Action by the Council.—On motion of Kress, seconded by Harris, the following resolution was unanimously adopted:

Resolved, That Dr. George Dock be reappointed on the Committee on Clinical and Research Prizes for a term of three years.

12. **Letters from The Hewlett Club and Other Members of the California Medical Association.**—The secretary read a letter dated July 29, 1930, addressed to the chairman, signed by T. Addis for the signers of the original letter protesting against certain resolutions of the House of Delegates, asking that immediate publication be made of the letter of protest and enclosing statement to be sent out to all members of the California Medical Association in the event that publication was refused. The secretary then read a letter dated August 28, 1930, signed by T. Addis for the signers of the letter of protest and addressed to the chairman, stating that the signers would not resort to publication in the form of a communication to members unless the Council should decide to refuse access to the society's publication, and that they would await the Council's decision on September 27.

Discussion was then had on the publication of the original letter. It was pointed out that an article had been published by Doctor Coffey giving his findings and that scientific experiments could now be carried on by others and the results thereof recorded. The advisability of publication of the letter in the Correspondence column which would be headed by a notice of nonresponsibility for the material contained thereunder was discussed. It was pointed out that such notice would not release the Association from responsibility for publication of libelous matter. The right of members of the Association in seeking publication of letters of criticism or disagreement with expressed policies was acknowledged, but the Council felt that such letters should be free from all libelous or untrue statements. The original letter of the Hewlett Club and other members of the Association filed with the secretary on May 19, 1930, and the amended letter filed with the secretary on June 3, 1930, were then discussed in detail, and certain statements contained therein which might be construed as libelous were pointed out.

Doctor Coffey then outlined his investigations in connection with the Coffey-Humber cancer extract and discussed the publicity which had appeared in the newspapers. Doctor Coffey expressed the desire to meet with the signers of the letter from the Hewlett Club and certain members of the San Francisco County Medical Society in regard to the subject.

Doctor Kelly then spoke of the value of harmony within the Association and stated that three alternatives presented themselves: (1) To take no action, which would leave the members of the Association with the feeling that the Council had refused to give them what they had a right to; (2) to ask the signers to send in another letter eliminating possible libelous statements, which could be passed on by a committee of three before publication in the JOURNAL; (3) to do as Doctor Coffey has suggested and arrange a meeting with the signers before final request is denied or granted.

13. **Noon Adjournment.**—At this point adjournment was taken for luncheon.

14. **Call to Order.**—The meeting was called to order by the chairman, who stated that before discussion was resumed on the letters from the Hewlett Club, some of the minor matters on the docket would be dispensed with.

15. **Credentials Committee Blank Forms.**—It was decided that discussion of forms for use by the Credentials Committee should be put over until the spring meeting of the Council.

16. **Membership.**—The secretary presented a request from the San Francisco County Society asking that William Charles Munly be granted associate membership in the California Medical Association. Doctor Kelly explained that Doctor Munly was at present in the federal service at the Presidio.

Action by the Council.—On motion of Peers, seconded by Kress, and unanimously carried, the following resolution was adopted:

Resolved, That William Charles Munly be granted associate membership in the California Medical Association.

Letter from the San Francisco County Society, with attached data on membership, was presented, in which it was requested that Dr. C. Max Richter be granted retired membership.

Action by the Council.—On motion of Peers, seconded by Harris, and unanimously carried, the following resolution was adopted:

Resolved, That Clemens Max Richter, San Francisco, be granted retired membership in the California Medical Association.

17. **Transfer of Membership on Change of Residence.**—The secretary stated that a letter had been sent all members of the California Medical Association who were members of a county society other than that of their residence and asked authorization for a letter to county secretaries before January 1 notifying them that dues be not accepted from any but resident members or others covered by the exceptions to this by-law.

Action by the Council.—On motion of Kelly, seconded by Kress, and unanimously carried, the following resolution was adopted:

Resolved, That the secretary be directed (1) to write a second letter on the first of November to those members who have not yet transferred under the provisions of the new constitution; (2) to furnish a list of such members to the county society secretary; and (3) that before the first of January the county society secretaries be notified of those members who have not transferred and be requested to not accept dues for 1931 from such members.

18. **Societies in Remote Counties.**—Doctor Peers stated that doctors residing in Modoc County where there is no county society had been anxious to join county societies other than adjoining counties as provided in the Constitution. It was pointed out that the logical society for doctors in Modoc to join was the Lassen-Plumas County Society.

Doctor Kress then spoke of the value of senatorial contact in all counties.

Action by the Council.—On motion of Kress, seconded by Pallette, and carried, the following resolution was adopted:

Resolved, That the Executive Committee, in coöperation with the Committee on Membership and Organization, be instructed to investigate the possibility of organizing a county medical society for every state senatorial district when a county society does not exist in such, and that the Executive Committee be authorized to bring about a preliminary organization of such possible future union of county medical units as soon as possible, and that a report thereon be presented at the spring meeting of the Council.

19. **Dues of Members.** — Discussion was had of dues of members joining the Association on or after July 1 of any year, and it was the sense of the Council that one-half the annual dues be assessed such members.

20. **Woman's Auxiliary.**—Doctor Kress stated that Mrs. James F. Percy, president of the State Woman's Auxiliary, was anxious to have more explicit by-laws for the auxiliary and that the draft submitted to the Council had been prepared and was submitted through the Committee on Associated Societies and Technical Groups.

Action by the Council.—On motion of Kress, seconded by Duffield, and carried, the following resolution was adopted:

Resolved, That the revision of the by-laws and rules of procedure for the Woman's Auxiliary of the California Medical Association and its component county auxiliaries be adopted as submitted through the Committee on Associated Societies and Technical Groups; the Executive Committee of the California Medical Association to have the power to make necessary changes therein as required.

Letter from Doctor Kress regarding the publication of reprints of September editorial on the Woman's Auxiliary was presented.

Action by the Council.—On motion of Kress, duly seconded and carried, the following resolution was adopted:

Resolved, That one thousand copies of the editorial on Woman's Auxiliary, as printed in the September issue of CALIFORNIA AND WESTERN MEDICINE, be printed and that the secretary of the Association send the proper number of copies to each county auxiliary, retaining extra copies in the central office for future use for prospective county auxiliaries.

21. **Committee on History and Obituaries.**—Doctor Kress spoke of the value of collecting data on medical history and presented the following resolution, which was duly seconded and carried:

Resolved, That the Committee on History and Obituaries be requested to learn where and at what price as complete sets as possible of former California medical journals and publications may be obtained, in order that the Council may determine whether or not it might wish to purchase the same for the archives of the California Medical Association.

Action by the Council. — On motion of Kress, seconded by Catton, the following resolution was adopted:

Resolved, That the Committee on History and Obituaries be authorized to incur clerical and allied expense incident to the collection of historical material for the California Medical Association to a sum, the total of which shall not exceed the amount of $200. Such expenditure to be paid by members of the committee who are to send in receipted bills through the committee chairman for reimbursement.

22. **Annual Directory.**—It was stated that a brief résumé on early day medicine in California would be of interest to many of the members, and Doctor Kress suggested that such résumé be included in the annual directory.

Action by the Council.—On motion of Catton, seconded by Kress, and unanimously carried, the following resolution was adopted:

Resolved, That the editors, in coöperation with the Committee on History, be authorized to insert such additional data bearing on the early days of organized medicine in California as in their judgment would be of interest or value to present-day members of the California Medical Association.

It was felt that approximately ten pages should be set aside for the historical data in the next annual directory.

23. **State Medical Library.**—Doctor Kress brought up the question of a state medical library to be carried on through funds which had been collected by the Board of Medical Examiners in licensing physicians.

Action by the Council.—On motion of Kress, seconded by Duffield, and carried, the following resolution was adopted:

Resolved, That the Committee on Public Policy and Legislation be instructed to look into the matter of a proposed bill for a state medical library, having in mind a draft that would permit a central library in connection with the State Library in Sacramento and other depositaries in the University of California, Stanford, and the Barlow Library at Los Angeles; and further, that the draft be referred to the Executive Committee and in due time a copy be sent to all councilors; funds for such library to be obtained through appropriation by the state by transferring some of the reserve funds of the California Board of Medical Examiners (which reserve funds represent the accumulation of licenses and similar taxes levied on physicians) and which are now in such amount as to be in excess of the current maintenance needs of the California State Board of Medical Examiners.

24. **Yolo-Colusa-Glenn County Society.** — In accordance with instructions of the House of Delegates, the Council authorized the granting of a charter to the Yolo-Colusa-Glenn County Society. It was felt that the value of having a county society in each senatorial district should be discussed with the Yolo-Colusa-Glenn County Society.

25. **Coöperative Diagnostic Laboratories.**—Doctor Hamlin stated that the question of the Coöperative Diagnostic Laboratories had been presented to the Council for consideration. It was stated that the question of ethics of members participating in such a corporation had been under discussion for the past five years and that at the 1930 meeting the judicial council of the American Medical Association had gone on record expressing the opinion "that schemes of this kind are unethical and directly opposed to the interests of scientific medicine and the public."

The report of the judicial council of the American Medical Association and the report of the Reference Committee of the American Medical Association was then read by Doctor Kinney.

It was pointed out that these laboratories were now extending their activities to counties other than Los Angeles and that the California Medical Association had taken no definite action on the question.

Doctor Duffield discussed the investigations which had been carried on through a committee of the Los Angeles County Association, stating that a minority report had been submitted by Doctor Percy and himself, expressing the opinion that such practice was unethical. Doctor Duffield referred to the opinion rendered by Hubert Morrow, attorney for the Los Angeles County Medical Association, who at that time stated that an examination of the by-laws seemed to show that the business was wholly coöperative.

Dr. Henry Snure then addressed the Council, stating that the radiologists were anxious that some action be taken by the Association.

Doctor Harris expressed the opinion that Section 14 of the Medical Practice Act covered this question and the facts should be brought to the attention of the Board of Medical Examiners.

Dr. Orville Meland, representing the Radiological Society of the Los Angeles County Medical Association, then spoke to the councilors, stating that they desired the moral support of the Council in trying to cope with the situation.

Action by the Council.—On motion of Catton, seconded by Duffield, and unanimously carried, the following resolution was adopted:

Resolved, That it is the sense of this Council, and it is declared as a statement of ethics in that regard, that any physician who is a participating member of a diagnostic laboratory and who receives as compensation from that laboratory a portion of the fees paid by patients he has referred to that laboratory shall be considered unethical.

It was felt that the matter should be discussed at a future meeting of the Council.

26. **Paper for the Journal.**—Doctor Kress called the attention of the Council to a manuscript submitted by a member of the Alameda County Society. It was the sense of the Council that there was no objection to publication in the JOURNAL.

27. **Resignation of Alternate.**—The secretary read a letter from William E. Stevens of San Francisco submitting his resignation as alternate to Dr. Irving Ingber for sessions of the American Medical Association House of Delegates.

Action by the Council.—On motion of Harris, seconded by Catton, and unanimously carried, the following resolution was adopted:

Resolved, That the resignation of William E. Stevens as alternate to Irving Ingber be accepted.

28. **Letters From the Hewlett Club and Other Members of the California Medical Association.**—The question of publication of the letters of the Hewlett Club was then brought up.

Action by the Council.—On motion of Pallette, seconded by Cushman, and unanimously carried, the following resolution was adopted:

Whereas, It appears that the letter of members of the Hewlett Club and other members of this Association, filed with the secretary May 19, 1930, and amended letter filed with the secretary June 3, 1930, publication of which in CALIFORNIA AND WESTERN MEDICINE, is requested by the signers thereof, may, in the opinion of the attorney of this Association be hereafter adjudged to contain libelous matter; and

Whereas, It is, and always has been the policy of the Association, to hold the columns of the official journal of this Association open for the publication of any relevant communication from any of its members, when couched in proper, nonlibelous language; now, therefore, be it

Resolved, That said letters be not published in their present form; and be it further

Resolved, That the president-elect, the chairman of the Council, and the councilor at large from San Francisco, Joseph Catton, are directed to arrange a meeting with the signers of these letters, to lay before them certain facts relating to matters referred to therein for their consideration, and that Doctors Coffey and Humber be invited to attend this meeting, in accordance with Doctor Coffey's suggestion made at this meeting of the Council; and be it further

Resolved, That if as a result of such conference said members desire to have a communication published and a letter may be prepared, which, in the opinion of the Executive Committee of the Association, is proper in its language and its statement of facts, the editor of CALIFORNIA AND WESTERN MEDICINE is hereby directed to publish the same; and be it further

Resolved, That a copy of this resolution be forwarded by the secretary to the signers of said letters.

29. **Group Insurance.**—Item 29 refers to a matter of group insurance, which is still under investigation. Publication will be made after action has been taken at a future meeting of the Council.

30. **Medical Economics Committee.**—Dr. John H. Graves, chairman of the Medical Economics Committee, stated that he had had a meeting of his committee and that the committee requested that a column be set aside in the state journal for information of the members on the subject of medical economics and the activities of the committee. It was pointed out by the editor that such space is now available under the Medical Economics column of the Miscellany department for material submitted by the Committee on Medical Economics.

31. **Western Journal of Surgery.**—The first issue of the *Western Journal of Surgery* was presented for the inspection of the Council, and the request for publicity in the Association JOURNAL discussed. Advertising matter accepted by the *Western Journal of Surgery* which was not acceptable to CALIFORNIA AND WESTERN MEDICINE was discussed.

Action by the Council.—On motion of Kinney, seconded by Moseley, and unanimously carried, the following resolution was adopted:

Resolved, That it is the viewpoint of this Council that under the circumstances, with such advertising as appears in the *Western Journal of Surgery*, it is not possible to give commendatory notice in CALIFORNIA AND WESTERN MEDICINE at this time.

32. **National Tuberculosis Association.** — Request for publicity in the JOURNAL for the annual Tuberculosis Association seal sale was presented. After discussion, on motion of Peers, seconded by Catton and unanimously carried, the following resolution was adopted:

Resolved, That the JOURNAL give not to exceed one page of space in the December issue for reading notices for the National Tuberculosis Association.

33. **Advertising in the Journal.** — The secretary submitted a report on advertising in the JOURNAL during 1930.

34. **Hospital Data.**—The secretary stated that requests for data on hospitals throughout California were frequently received at the state office and no complete data were on file.

It was suggested that the secretary write a letter to the various hospitals and institutions throughout California requesting a copy of the annual report and securing additional information by means of a questionnaire.

Action by the Council.—On motion of Kress, seconded by Kelly, and unanimously carried, the following resolution was adopted:

Resolved, That the secretary be requested to accumulate hospital data from available sources and by means of a questionnaire so that a list may be prepared containing information concerning hospitals in California in as complete form as possible.

Letter from Dr. Langley Porter enclosing clipping on the Alhambra Clinic was read.

35. **Medico-Legal Case.**—Dr. Joseph Catton discussed a medico-legal case in Oregon and stated that the Association might wish to enter an *ex parte* brief.

Action by the Council.—On motion of Catton, seconded by Kress, and unanimously carried, the following resolution was adopted:

Resolved, That the general counsel be asked to bring in information on this subject to the Executive Committee to the end that an official statement may be given publicity in the Medico-Legal department of CALIFORNIA AND WESTERN MEDICINE.

36. **British Medical Association Medical Economics Data.**—The general counsel stated that at the request of President Kinney, during his visit in England he had called at the office of the British Medical Association and discussed the problem of health insurance and medical economics. Mr. Peart stated that the British Medical Association had made a very extensive study of medical economics. Mr. Peart stated that he had collected data on health insurance, and other rules and regulations used in England.

It was the sense of the Council that Mr. Peart present a digest of the data collected.

Action by the Council.—On motion of Kress, seconded by Harris, and unanimously carried, the following resolution was adopted:

Resolved, That the Committee on Medical Economics, the Committee on Hospitals, Dispensaries and Clinics, and the general counsel be requested to bring in a report at the January meeting on medical and hospital costs.

37. **Lay Medical Service Corporation.**—The present status of the case of the People vs. The Lay Medical Service Corporation was discussed and the secretary was instructed to secure a statement of the costs to date.

38. **Ownership of X-ray Plates.** — Doctor Peers asked if any decision had been reached regarding the ownership of x-ray plates.

It was the sense of the Council that a letter be written to Doctor Woodward of the Bureau of Legal Medicine and Legislation asking that he send a digest of the law on ownership of x-ray plates.

39. **Adjournment.**—There being no further business the meeting adjourned.

OLIVER D. HAMLIN, *Chairman.*
EMMA W. POPE, *Secretary.*

COMPONENT COUNTY SOCIETIES

ALAMEDA COUNTY

The regular meeting of the Alameda County Medical Association was held in the Board of Education building on Monday evening, January 19. The first paper on the evening's program was the report of a case of angioma of the spine, the report being made by Dr. Leonard Barnard and further discussed by Dr. N. A. Cary, who showed x-rays of bone lesions in this and other similar cases. The doctors believe that this lesion is not so rare as the literature suggests. The case here reported is the first to be diagnosed by x-ray prior to surgery.

The second paper of the evening was a discussion of streptothrix infection of the mouth and throat by Dr. F. S. Baxter. Doctor Baxter urged that this pathological entity be borne in mind by those handling diseases of the mouth and throat. Colored illustrations of the condition were shown and a number of cases were reported.

Dr. Karl Meyer of Hooper Foundation was the guest speaker of the evening. Doctor Meyer discussed the prevention of milk-borne diseases, with particular reference to tuberculosis, typhoid and dysentery, septic sore throat and undulant fever. The history of milk-borne infections was reviewed and methods outlined for their control. A study of carriers as well as those acutely ill in connection with dairy work was discussed. Doctor Meyer called attention to the remarkable results obtained in the cleaning up of dairies and the elimination of tuberculosis therefrom in this state, and believes that in the near future all herds will be free from both tuberculosis and abortis infections. The doctor warned against the diagnosis of Malta fever by agglutination tests in *low* dilution, pointing out the fact that because of widespread abortus infection in the cattle of the entire world a certain amount of immunity is developed in all milk drinkers.

The Association went on record as unanimously endorsing the recommendation contained in the report of Dr. Joseph Mountin, who has recently surveyed Alameda County's publicly supported health and hospital service. Doctor Mountin's report contains the recommendation that a full-time county health officer be appointed and that a hospital commission should be named which should include the administration of all county activities relating both to the prevention of disease and the promotion of health and to the care of the sick.

GERTRUDE MOORE, *Secretary.*

CONTRA COSTA COUNTY

The first regular meeting of the Contra Costa County Medical Society under the newly elected president, Dr. W. A. Rowell of Crockett, was held at Hotel Carquinez on the evening of January 13.

The minutes of the November business meeting and the report of the annual banquet held in December were read by the secretary and accepted. The application of Dr. Henry W. Stirewalt for membership in the society on a transfer from San Francisco County was unanimously passed. A report of the activities of the Woman's Auxiliary during the year 1930 was read and accepted. A letter from the Contra Costa County Dental Society expressed its appreciation of the opportunity of meeting with the medical profession during the past year and suggested that such joint meetings be held more frequently in the future. This suggestion was favorably acted upon and it was tentatively decided to hold a joint meeting with the dental profession in March. The following committee appointments made in 1930 by the retiring president were confirmed for the year 1931:

Committee on Medical Economics—Dr. J. M. McCullough of Crockett.

Committee on Public Policy and Legislation—Doctors U. S. Abbott of Richmond, E. W. Merrithew of Martinez, and S. N. Weil of Rodeo.

Committee on Public Health—Doctors J. M. McCullough, S. N. Weil, and J. F. Feldman.

A report from the Committee on Public Health was postponed until the next meeting.

The scientific paper of the evening was presented by Dr. F. H. Kruse of San Francisco, who spoke on "Cholecystitis, Cholelithiasis—Cause and Effect." Doctor Kruse gave a highly interesting discussion of the mechanism involved in the pathology and etiology of biliary diseases. His lecture was illustrated by well-chosen radiographs and lantern slides. This elaborate subject was covered in a very efficient manner by the speaker and brought out an interesting discussion from the members. Martinez was chosen for the next meeting to be held February 10. Following the meeting the society entertained the Woman's Auxiliary at a buffet lunch.

Members and guests present were: Doctors W. A. Rowell, J. M. McCullough of Crockett; S. N. Weil of Rodeo; A. H. Beede of Walnut Creek; C. Bolinder of Danville; J. W. Bumgarner, F. W. Overdahl, C. O. Bishop, R. J. Harmon, Rosa Powell, C. R. Blake, L. St. John Hely, H. L. Carpenter, J. F. Feldman and L. H. Fraser, all of Richmond.

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The Contra Costa County Medical Society was host to over one hundred public officials, members of school boards, of sheriff and district attorneys' offices, welfare organizations, and the judicial and legal professions at a special meeting held at Hotel Carquinez, Richmond, on the evening of January 24. The occasion was a lecture on the criminal problem, by Dr. Herman Adler, professor of criminology at the University of California, formerly director of the Chicago Institute for Juvenile Research, and psychiatrist to Joliet prison. Representatives from all parts of the county filled the hall, and demonstrated by their appreciation of gratitude and generous applause their consideration of this unusual opportunity of hearing such an eminent authority in criminal and allied subjects.

The president of the society, Dr. William A. Rowell, was in the chair and extended the profession's welcome to the assembled guests. Deputy Sheriff Ralph Harrison of Martinez was introduced and paid a glowing tribute to the members of the medical profession of the county for their efficient and conscientious coöperation with the representatives of the law during recent years. Mr. Hollis Thompson, city manager of Berkeley, was next introduced and spoke briefly of the warm bonds of friendship and coöperation which exist between the two sister counties of Alameda and Contra Costa. Dr. Hubert Rowell, who has been associated with the police department of Berkeley for many years, next made a few introductory remarks and presented the invited speaker, Dr. Herman Adler, whose topic was "The Potential Criminal."

The speaker discussed the influence of heredity and environment in juvenile delinquency and inclined to the theory of environment as the major influence in the larger majority of cases. Criminal insanity, Doctor Adler declared, was far too much emphasized. The mania for thrills and the lack of elbow room in our rapidly growing cities, the speed of the age in which we live, and the complexity of life itself, were allotted a major part in the etiology of child delinquency by the speaker. Remedial measures in this great problem were stated to depend a great deal on the community spirit and coöperation of the public. Doctor Adler illustrated his lecture with vivid descriptions and comments on the most notorious juvenile cases in the field of criminology during recent years. Generous appreciation of Doctor Adler's talk by the many representative guests in attendance impressed the medical profession with the value of this and other similar meetings with laymen interested in the same problems. Opinions were freely given that such affairs greatly contribute to the understanding of medico-legal matters, and promote valuable good will toward the profession. In thanking Doctor Adler for the interesting lecture, President W. A. Rowell extended the thanks of the society to its valuable member, Dr. J. B. Blackshaw of Antioch, through whose efforts the meeting was made possible.

Gracing the speaker's table were: Doctor Adler, the president; Dr. Hubert Rowell of Berkeley, Superior Judge A. B. McKenzie, Superior Judge H. V. Alvarado, and Deputy Sheriff Ralph Harrison of Martinez. Before the meeting, Doctor Adler was guest at a dinner which was attended by many representative dignitaries of the various county agencies for law enforcements.

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A well-attended meeting was held by the Contra Costa County Medical Society at the County Hospital, Martinez, on February 10.

The minutes of the last regular meeting held in Richmond and those of the special public meeting held on the occasion of Dr. Herman Adler's visit to Contra Costa County were read and approved.

The report of the Committee on Public Health was presented. It was moved by the chairman, Dr. J. M. McCullough, and seconded by Doctor Weil, that this report be forwarded to the County Board of Supervisors and the County Taxpayers' Association, together with a resolution endorsing the recommendations of the county health officer, Dr. Paul Capps. An offer of coöperation and assistance of the medical society in carrying out the recommendations of these reports was also to be included in this resolution.

The application of Dr. J. Roger U. Campbell of Bay Point for admission to the society on a transfer from San Francisco was postponed until the provision for six months' residence is fulfilled.

Warnings were offered by various members against narcotic addicts, who have been calling on members throughout the past few weeks.

Suggestions on the types of programs preferred by the members were requested by the chair, and were freely given.

The president, Dr. W. A. Rowell, announced the inability of the chief scheduled speaker to be present and introduced Mr. A. B. Tinning, past district attorney of the county. Mr. Tinning gave a very able and instructive talk on legal matters pertaining to the individual physician. The various phases of the legal obligation that a physician has toward his patients were discussed and illustrated by well-chosen cases. The physician's legal responsibilities in expert testimony and the principles involved in malpractice suits were brought out. Mr. Tinning is ably qualified to speak on medical legal subjects, and the society was very fortunate in having him for a speaker. A prolonged discussion followed and questions were asked and answered on many interesting points of the law.

Following the meeting a buffet lunch was served to the members and guests at the First Congregational Church by the Woman's Auxiliary.

Those present were: Doctors Rowell, McCullough, Weil, Merrithew, Beard, Fitzpatrick, McLafferty, Clara Spaulding, Blake, Powell, Keser, Neufeld, Bishop, Fraser, and the following guests: Doctors Bolinder, Overdahl, J. B. Spaulding, Harmon, Leggo, Campbell, Morken and Milne. Mrs. Purviance, Mrs. Tonn and Miss Hench.

L. H. Fraser, *Secretary.*

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ORANGE COUNTY

The regular monthly session of the Orange County Medical Association was held Tuesday, February 3, at 8 p. m. in the Orange County Hospital staff room.

This meeting was called to order, in the absence of the president, by Vice-president Maroon. The minutes of the December regular and special meetings and of the annual meeting of January were read and approved.

It was moved and seconded that the president appoint a committee on medical economics, and this committee to serve through its chairman on the subcommittee of the California Medical Association. This was unanimously carried.

The annual financial report for the year 1930 was read by the secretary, and showed the society to be in a sound financial condition.

The first readings of the applications of Doctors Charles E. Saulsberry and Roy A. Cummings were heard. These applications were held over for a final reading and vote at the regular March meeting.

The scientific program consisted of three short, concise and practical papers dealing with the eye, ear, nose, and throat. Dr. H. D. Newkirk's paper on "The Tonsils" was excellent, and was fully discussed by Doctor Sellon of Fullerton. Dr. S. T. Johnston's paper on "The Eye" was most practical and beneficial. Dr. G. M. Tralle's paper on "The Ear" contained many helpful hints for the general practitioner in the diagnosis of such diseases. This paper was discussed in a very capable manner by Dr. W. C. Mayes.

Harry G. Huffman, *Secretary.*

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PLACER COUNTY

The Placer County Medical Society held its January meeting on the 24th of the month at Auburn, being called to order by Dr. Robert H. Eveleth, president.

There were present the following members and visitors: Members—Doctors Eveleth, Rooney, William Miller, Thoren, Mackay, P. D. Barnes, Peers, McArthur, Dunievitz, L. B. Barnes, Russell, Louis Jones, and C. E. Lewis. Visitors—Doctor Kindopp of Colfax, Doctors Cameron, Fraser and Crossen, and Mr. Thoren of Weimar; Doctors Kanner, Cook, Schoff, Scatena, Gundrum, Hopkins, Beach, and Reardon of Sacramento.

After the ordinary routine business, the president introduced Dr. H. M. Kanner of Sacramento, a former member of the Placer County Medical Association, who gave an address illustrated by charts and lantern slides.

Doctor Kanner reported nine cases of low cesarean done on seven patients, with no mortality. Three had only one low cervical cesarean. Two had a classical and two low cervical cesareans. One had two low cervical cesareans. One had one classical and two low cervical cesareans. Four of these patients were in labor with an average length of labor of twenty-two hours. Two had ruptured membranes, with an average length of nine hours. The other two had a good test of labor with a fully dilated cervix; membranes not ruptured.

One of these patients was frankly infected, having a temperature of 100 with a pulse of 110 prior to operation. This patient and one other, which had a ruptured membrane for six hours and four rectal examinations, were the only ones that had any morbidity. There were four cases of ligation of the tubes at time of the operation.

These cases, Doctor Kanner stated, are representative of what is to be expected in the low cervical cesarean. No mortality, low morbidity, easy convalescence, very few adhesions, with invisibility of scar in the lower segment.

Following Doctor Kanner, Dr. C. E. Schoff of Sacramento addressed the society on "Eczematoid Dermatoses of Hands and Feet Due to the Presence of Fungi."

Doctor Schoff stated that epidermophytosis, in its general terminology today, is somewhat like its predecessor eczema, which has been used for a number of years to express a number of skin affections to which no etiological factor could be attributed; so, too, the term "epidermophytosis" is to designate such affection of the glaborous skin caused by many fungi, which, under suitable conditions, cause dermatoses. It has been shown pedal mycoses have their origin in the fourth interdigital space of the feet and, likewise, in the third interdigital space of the hands. The infection can be transmitted through the media of wool socks, leather wrist-watch bands, silk undergarments and, very frequently, is contracted in public and semi-public shower baths. Epidermophytic affections of the nails are not rare and the most intractable to treatment. It should be remembered that molds love dark places and shoes worn from fourteen to eighteen hours per day and never aëreated, and silk stockings, which are never boiled, form good media for fungi to grow. A child affected with ringworm of the feet will respond wonderfully if allowed to go barefooted.

Doctor Schoff closed with remarks on treatment, mentioning particularly the use of ointments containing salicylic acid.

Both of these papers elicited general discussion.

Robert A. Peers, *Secretary.*

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SACRAMENTO COUNTY

The November meeting of the Sacramento Society for Medical Improvement was held at the Senator Hotel on November 18 at 8:30 p. m. Forty-two members were present. The president, Gustave Wilson, called the meeting to order.

Dr. F. F. Gundrum read a few paragraphs from the preface of an interesting old Pharmacopeia which was published in 1828.

Dr. Frank Topping made a further report on thymophycene.

Dr. E. T. Rulison reported a case of tubal abortion in which there had been no interruption in the menses. An autotransfusion was performed on this case following the laparotomy.

Dr. Edward Babcock reported an interesting case of pneumonia in a child in which the x-ray findings were confusing. A few other cases were mentioned and x-ray films shown in which the clinical findings of pneumonia were not borne out by the films until later in the course of the disease.

The paper of the evening was delivered by Dr. Edmund J. Morrissey of San Francisco. Doctor Morrissey's subject was "Spinal Cord Tumors," especially their symptoms and signs. The subjective symptoms were discussed first. An important diagnostic point was emphasized, namely, that of nerve root pain or localized pain in patients with a spinal cord tumor was made more severe by coughing or straining. Objective symptoms were then outlined such as motor and sensory disturbances, anesthesias, paralysis, and parasthesias. These symptoms would aid materially in localizing the tumor. Doctor Morrissey described certain tests which would help to localize the tumor. The technique of lipiodol injections in diagnosis was discussed and x-ray films were shown of lipiodol injected cases. In summary, the following points are important in arriving at a diagnosis of spinal cord tumor: (1) History. (2) Neurological examination. (3) Spinal puncture with manometer. (4) Lipiodol injections into the cistern, with subsequent x-ray examination of the spinal canal.

Appreciation of the paper was voiced by Doctors Gundrum, Cook, and Babcock.

The transfer of Dr. Herbert F. True was read for the first time.

Frank Warne Lee, *Secretary.*

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SAN BERNARDINO COUNTY

The regular meeting of the San Bernardino County Medical Society was held at the County Hospital in San Bernardino on January 6.

The meeting was called to order by the first vice-president in the enforced absence of the president.

The proposed change in the by-laws was then passed by unanimous vote.

Section. 1. The board of councilors of the San Bernardino County Medical Society shall nominate a ticket containing a name for each office to be filled, and the names of the nominees with the titles of the office for which they are respectively nominated shall be printed in the official program for the meeting in April. If there are no nominations properly seconded at this meeting or at the May meeting by any member of the society, the ticket as printed shall be declared elected at the regular annual meeting.

Section 2. Any member properly seconded and with the consent of his candidate may nominate his candidate for office at the meeting in April or May. This section must be published in the official program at the time of the publication of the nominations of the board of councilors.

Announcement was made regarding the Santa Barbara clinic day.

Announcement was made regarding the prizes given by the California Medical Association for the best papers on clinical research, and also of the establishment of a library open to all physicians at the University of California Medical School.

The following three men were admitted to membership: Dr. Cecil E. Burk, Dr. Rodney F. Wood, and Dr. Byron F. Mock.

Moved and seconded that the society send flowers to the president, Dr. H. Hill, who is ill in the hospital.

The program of the evening was then given.

Motion picture, "Traumatic Surgery of the Extremities." There were four reels shown and each was discussed as run: the first by Philip Savage of San Bernardino; second, by W. A. George of Loma Linda; third, by C. G. Hilliard of Redlands; and the last by F. E. Clough of San Bernardino.

After discussing this reel Doctor Clough correlated all four and threw the subject open to general discussion.

Refreshments were served at 10:30 o'clock. About sixty-five members were present.

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The meeting of February 3 was called to order by Dr. C. L. Curtiss, second vice-president, in the absence of the president and first vice-president.

Dr. F. H. Folkins acted as secretary in the absence of Dr. E. J. Eytinge, secretary.

A letter from the Woodland Clinic relative to medical illustrating was read.

Another delegate and alternate were elected to the state meeting: Dr. Savage nominated Dr. Walter Pritchard as delegate, and Dr. Tisinger nominated Dr. D. B. Williams as alternate. These men were unanimously elected to these positions.

The following program was then given:

Chronic Constipation, by Dr. Roland Cummings of Los Angeles. Discussion opened by Dr. Charles Curtiss of Redlands.

Clinical Manifestations of Protozoa (motion pictures), by Dr. John Barrows of Los Angeles. Discussion opened by Dr. Alfred Roos of Loma Linda.

Refreshments were served at 10:20 p. m. About sixty members were present.

E. J. Eytinge, *Secretary.*

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SAN JOAQUIN COUNTY

The stated meeting of the San Joaquin County Medical Society was held Thursday evening at 8:30 o'clock, January 8, in the Medico-Dental clubrooms at 242 North Sutter Street, Stockton.

The meeting was called to order by President Harry E. Kaplan, who introduced Dr. G. H. Rohrbacher, the newly elected president, and relinquished the chair to him.

The names of three new members were presented by the secretary: Doctor Haggerty by transfer and Vander Leek and Bautista by first application. President Rohrbacher announced the following committees by appointment:

Committee on Publicity—C. V. Thompson, Samuel Hanson, J. V. Craviotto.

Committee on Hospital Relations—Raymond T. McGurk, William P. J. Lynch, Jr., Barton Powell.

Committee on Bret Harte Relations—Percy B. Gallegos, Harry E. Kaplan, Herbert S. Chapman.

Committee on Legislation—Dewey Powell, John J. Sippy, Raymond T. McGurk.

Committee on Intelligence — Jesse W. Barnes, Charles D. Holliger, Thomas C. O'Connor, Jr.

Committee on Amendments—James F. Doughty, Abram Lee Van Meter, Nathan Powell Barbour.

Committee on Medico-Dental Collection Bureau—Linwood Dozier, Harry E. Kaplan, Barton Powell.

Committee on Public Policy and Legislation—Margaret Smyth, Hudson Smythe, Llwellyn R. Johnson.

Committee on Medical Economics—Fred F. Conzeiman, Barton Powell, John F. Blinn.

The meeting was well attended, with William Kerr, M. D., of San Francisco and Doctors Kyddson and Vander Leek of Stockton as guests. The members present included Doctors Rohrbacher, Sutton, Barton Powell, Jr., Dozier, Kaplan, Chapman, Sanderson, Doughty, M. Smyth, Marnell, Thompson, Smithers, Haight, Hull, Broaddus, Hanson, Gallegos, Barnes, Goodman, McGurk, and Owens.

The scientific paper of the evening was read by Doctor Kerr on the subject, "Recent Experimental Studies on Raynaud's Disease." (Published in February issue of California and Western Medicine, page 91.)

Doctor Kerr summarized his paper as follows:

"A variety of Raynaud's disease has been studied. It is the form in which the digits become periodically pale or cyanotic, and in which, after several or many winters of repeated attacks, terminal portions of the digits may be lost by a process of slow, dry gangrene.

"Suggestions for a rational treatment are given on the basis of original observation, and results achieved on a limited number of cases are mentioned. Further studies are being made in this direction. Certain frequently associated conditions are mentioned, and the application of this method of treatment to these and other disorders is proposed."

The paper was discussed or questions asked by Doctors Barbour, Barnes, Sheldon, Blackmun, and Thompson.

The second paper of the evening was read by Dr. Samuel Hanson on the subject, "Pasteurization of Breast Milk at a Low Temperature." The doctor stated that his method was conceived as the result of need for breast milk under urgent conditions which could not wait for a Wassermann blood test. He knew that the *Spirocheta pallida* was readily killed at temperatures as low as 105.8 degrees Fahrenheit after exposure for six hours. Therefore the milk is heated to 120 degrees Fahrenheit on a water bath for thirty minutes. This precludes the possibility of any spirochetes to survive. The method is not intended for routine treatment, but in cases where a Wassermann test is impractical or until it can be obtained.

There being no further business the meeting was adjourned at 10:30 o'clock. Light refreshments were served at the close.

C. A. Broaddus, *Secretary.*

SANTA BARBARA COUNTY

The regular meeting of the Santa Barbara County Medical Society was held in the Bissell auditorium of the Cottage Hospital Monday afternoon, February 9, President H. J. Ullmann presiding.

The legality of the election of officers at the regular annual meeting being questioned, as the officers were elected by acclamation and not by secret ballot as required by the Constitution and By-Laws of the county society, it was deemed advisable to hold a reëlection. Therefore ballots were distributed, and upon count it was found that the same officers were unanimously reëlected.

The transfer card of Dr. Lela J. Beebe from Yolo-Colusa-Glenn County Society was read and upon balloting she was admitted to membership.

Doctor Ryan then raised the question as to the advisability of officers of the society being elected as delegates. This was discussed by several members and the president instructed the secretary to make inquiry of the State Association in this regard.

The president then read the list of various committees appointed for the ensuing year.

The president introduced the speaker of the evening, Dr. Francis Pottenger of Monrovia, who gave an extremely interesting and instructive address on the recent advances in tuberculosis, illustrated with x-ray films.

The paper was discussed and questions asked by Doctors Henderson, Freidell, Koefod, Ryan, Means, Markthaler, Shelton, Howard Eder, Pierce and Hunt.

William H. Eaton, *Secretary.*

SANTA CLARA COUNTY

The January meeting of the Santa Clara County Medical Association was held at O'Connor's Sanitarium in San Jose on the evening of February 18. A dinner preceded the meeting, which was called to order by Dr. C. M. Burchfiel, president, at 8:15 o'clock.

The following new members were admitted to the society: Doctors Joseph P. Schell, Anthony J. Monty, and John J. Bourn of San Jose; Richard E. Graun of Los Gatos.

The application for membership of the following doctors were referred to the Admission Committee: Dr. Phillip S. Haley and Dr. Milton A. Premo.

At the request of the county coroner the matter of the appointment of a county autopsy surgeon was opened for discussion.

The scientific program consisted of the following papers: "Lues of the Gastro-Intestinal Tract," by Dr. Merlin T. R. Maynard; "Angina Pectoris, Coronary Thrombosis with Myocardial Infarction," by Dr. L. M. Rose.

Lucas W. Empey, *Assistant Secretary.*

SONOMA COUNTY

The regular meeting of the Sonoma County Medical Society was held on January 22 at the Occidental Hotel, Santa Rosa, at 6:30 p. m. Twenty-two members attended. After a pleasing dinner the meeting was turned over to LeRoy Brooks, M. D., of San Francisco, who read a very interesting and instructive paper on "Ptosis of the Cecum and Ascending Colon—A Congenital Deformity Often Mistaken for Appendicitis." Lantern slides were shown. In addition. Doctor Brooks demonstrated the Brooks' tubes which he has devised for blood transfusion.

The business meeting was then called to order by President A. Morse Bowles.

The Legislative Committee appointed by the president consisted of Doctors Rogers (chairman), Scawell, and Lewis. Medical Economics Committee, Doctors Thompson (chairman), Carlson, and Wright.

The question of the County Tuberculosis Hospital was then brought up, and the discussion indicated the preference of a joint intercounty hospital with Solano and Lake counties and any others that might come in later. If this plan proved to be impossible, a tuberculosis hospital as a part of the County Hospital system was recommended. The construction of a new, modern County Hospital is now under consideration.

A motion was passed that the next meeting be held at Windsor Castle and that we celebrate the birthday of the Sonoma County Medical Society, which was organized in 1903.

* * *

The regular meeting of the Sonoma County Medical Society was held at Windsor Castle on February 12. The meeting was in the nature of a birthday party, this society having been organized in 1903 and in continuous existence for twenty-eight years.

Following a delicious dinner at 6:30 p. m., the members were entertained by several musical numbers provided by outside talent. Each member was supplied with a brightly colored paper hat and a horn, the noise from which added to the festivities. The birthday cake, adorned with twenty-eight lighted candles, was cut by Dr. Elizabeth Yates, who was the oldest member present and a charter member of the society.

A brief business meeting was then held, with Dr. A. Morse Bowles in the chair. Doctor Rogers talked about our next meeting, which is to be held on March 12 at the Sonoma Mission Inn and in conjunction with societies of the other north bay counties, at which Dr. Lyell C. Kinney, president of the California Medical Association, will meet with us and be the principal speaker.

Moved, seconded and carried, that the secretary be instructed to send flowers and a note of sympathy to Dr. R. E. Hamlin, who is confined in the Dante Sanitarium in San Francisco. His condition was reported to be improved.

The founding of the society was then appropriately celebrated by talks and reminiscences by several of the members. It was brought out that the Sonoma County Medical Society was organized Octobed 21, 1903, by Dr. A. W. Morton, assisted by Doctors P. M. Jones and C. C. Kenyon. The following members were elected to office: Doctor Shearer, president; Doctor Jesse, vice-president; Doctor Mallory, secretary; and Doctor Stuart, treasurer. Charter members of the society included: Doctors Bonar, Crump, Fay, Ivancovich, Jesse, Herrick, Meneray, McLeod, Mallory, McMullin, Stuart, Shearer, and Yates. Of these charter members, Doctors Meneray, McLeod, and Yates are still members of the society.

Doctor Sewall, although not a charter member, came in shortly afterward. He recalled the verbal fights that used to ensue, contrasting these to the more peaceful meetings of today. He also gave a description of his first automobile. On one occasion he pushed it for six blocks, merely because he forgot to turn on the switch.

Doctor Yates gave a vivid description of the earthquake and remarked about the large number of doctors who lost everything. There were many leg fractures among victims of the earthquake and a big majority of these occurred in the left leg.

Doctor Bogle also told of the earthquake and of one woman whose hair turned gray from the shock. Six physicians lost their offices and equipment in the fire, including Doctors Yates, Trachman, Stuart, Mallory, Jesse, and Bogle. In the reconstruction period many new faces as well as new buildings appeared, to change the appearance of the town.

Doctor McLeod told of his first coming to Santa Rosa and how he almost located in Bloomfield. The young members then are the old members now. He brought out the fact that seventeen members have died since the society was formed, and believes that graduates of today are much better prepared for the work. He sees especially better surgical training.

Doctor Thomson spoke of having to drive a horse and buggy from Sonoma to attend meetings, and told of the pleasure of driving the first automobile in Sonoma.

Doctor Shipley spoke of his birth in Cloverdale and of Doctor Boggs, who inspired him to study medicine. He also agrees with Doctor Sewall there was more opportunity for excitement in the society then than now.

Doctor Meneray spoke of the former difficulty of going up Fourth Street on account of the mud and told some of his early amusing experiences.

Doctor McAuley spoke of having started practice in Petaluma and later moving to San Francisco to assist Dr. Florence Ward. Quite recently she has again returned to Petaluma.

The following members were present to celebrate the occasion: Doctors Konttas, McAuley, Bowles, Yates, Bogle, Shipley, Burgess, Vierira, Rogers, Thomson, Thurlow, Ray, McLeod, Haskell, Meneray, Seawell, Marsh, Spear, Quarry, and Reiss. It was regretted that Dr. J. W. Clark, the oldest living member of the society, and still in practice, could not be present.

T. Hubert Reiss, *Secretary.*

CHANGES IN MEMBERSHIP

New Members

Alameda County—Thomas I. Buckley, Milton Parke Ream.

Kern County—Roscoe Lee Zieber.

Los Angeles—

Edward W. Alsberge
Albert Arkush
Lyle C. Bacon
Finis G. Cooper
James C. Doyle
Charles Warren DuBois
Carl Feldman
Virgil Luther Fisher
Roy Collins Gilliland
Percy Goldberg
Maurice W. Gumpert
Channing Ward Hale
Lewis William Harding
Walter A. Hodges
Kenneth Paul Jones
Arthur Adolph Kirchner
Henry B. Lemere
William C. Lucas
Robert George Majer
Thomas W. Nisbet
Louis J. Regan
Edmund T. Remmen
David R. Robbins
Mary A. Ross
Hobart P. Shattuck
Donald Charles Shelby
Frank M. Shirk
Ferris Wilson Thompson
Leon J. Tiber
Emil Wind

Napa County—Arvill Elsworth Chappell, Alexander H. McLeish.

San Bernardino County—Xenophon Olsen.

San Francisco County—Ernest F. Gianotti, Matthew Emery Hazeltine, Leon Ocel Parker, Oluf Andreason Ring, Melvin Ralph Somers.

San Joaquin County—Barton Jerome Powell, Jr.

Santa Clara County—Margaret Lamson, Bertha Shedd Mason, Paul Theron Pace, Newell Linton Moore, Eugene Wendel Mullen.

Solano County—Edward Francis Mullaly.

Stanislaus County—Harold Powers Muller, Francis Harold Downing.

Resignations

Olga Bridgman, Paul Castelhun, Louis P. Howe, F. P. Canac-Marquis, Amy C. Stevens, Arthur H. White, all from San Francisco County.

Transferred

Henry A. Brown, from San Francisco to Alameda County.

William E. Carter, from San Francisco to Alameda County.

Robert O. Le Baron, from Santa Clara to Mendocino County.

Smith McMullin, from Sacramento to Yuba-Sutter County.

Robert A. Steven, from Alameda to San Francisco County.

H. Walter Stirewalt, from San Francisco to Contra Costa.

Deaths

Cowden, Ambrose Franklin. Died at Santa Cruz, February 18, 1931, age 52 years. Graduate of University of California Medical School, San Francisco, 1905. Licensed in California, 1905. Doctor Cowden was a member of the Santa Cruz County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

Cunningham, Benjamin Frazier. Died at Paso Robles, February 8, 1931, age 61 years. Graduate of Harvard University Medical School, Boston, 1894. Licensed in California, 1919. Doctor Cunningham was a member of the San Luis Obispo County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

Keck, Frederick Charles. Died at San Francisco, February 16, 1931, age 66 years. Graduate of Cooper Medical College, San Francisco, 1894. Licensed in California, 1895. Doctor Keck was a member of the San Francisco County Medical Society, the California Medical Association, and the American Medical Association.

McGettigan, Charles D. Died at San Francisco, January 23, 1931, age 58 years. Graduate of the University of California Medical School, San Francisco, 1896. Licensed in California, 1896. Doctor McGettigan was a member of the San Francisco County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

Wilbur, Hubert Granville. Died at Long Beach, January 25, 1931, age 72 years. Graduate of Harvard University Medical School, Boston, 1890. Licensed in California, 1920. Doctor Wilbur was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

Woolsey, Mark Hopkins. Died at San Francisco, January 28, 1931, age 67 years. Graduate of Cooper Medical College, San Francisco, 1890. Licensed in California, 1890. Doctor Woolsey was a member of the San Francisco County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

THE WOMAN'S AUXILIARY OF THE CALIFORNIA MEDICAL ASSOCIATION*

Official Notice

To the Officers and Members of the Woman's Auxiliary of the California Medical Association:

It is hard to realize that the official year of the state auxiliary will soon come to a close at the annual meeting in San Francisco, April 27 to 30.

Your state officers are looking forward with keen interest to meeting you all again. We have confident assurance that every woman attending, whether already a member or not, will feel the cordiality and friendliness of the auxiliary. It has been demonstrated that congenial friendships and sympathetic understandings have already come from contacts made through the auxiliary and that these ripen and deepen as we know more of each other.

We want to urge every member to contribute her share to the success of the meeting by an enthusiastic greeting to every other woman in attendance at the California Medical Association convention. Let us see that each one present is made to feel that we are all interested in her personal welfare and, as well, in the professional side of her home life.

The history of the auxiliary is that wives now look forward in eager anticipation to these sessions and accompany their husbands who sometimes heretofore have stayed away because it meant only a few lonely days for their wives.

Furthermore, some interesting features in our development will be scheduled. All members should know what the state organization has been and is trying to do. This is the only way we can coöperate and coördinate, the two most important words in our lexicon.

The county units are the center or hub of the state and national auxiliaries and make the laws upon which these operate, so we again urge all members who possibly can to be present at all meetings. All members have a voice on the floor and we assure you the program will not be dull. Mrs. Thomas A. Stoddard, second vice-president, is convention chairman.

The question, "What are we to do after being organized" has best been answered by, "If you will just stay organized until the time comes when you shall be needed, you will have accomplished a great deal." If only we impress upon the minds of those we meet in daily contacts the necessity of understanding every legislative bill before voting upon it, much good will be simply and easily consummated.

Letters have been recently sent to all county presidents asking assistance in raising a "drought fund" by contributing 10 per cent of their annual dues and as much more as they may wish to raise, to be used for medical supplies and gasoline for the physicians in the stricken areas who can no longer afford to carry on their humanitarian work. This emergency promises to be a practical matter for a long time. Surely here is a bit of philanthropy that should reach our hearts. We have asked the national president to have it suggested to each state organization.

Be sure that your district is represented by a councilor. This is not only your right but your duty.

With pleasant anticipations of what I am sure is to be a glorious meeting.

Cordially and sincerely yours,

(Mrs.) James F. Percy,
State President.

Orange County

Forty-nine members joined the auxiliary in 1930, of whom forty were charter members.

Ninety-six dollars was paid into the treasury. Expenditures were $64.80 of which $39 were for state and national dues and $25.80 for current expenses, leaving a balance of $31.20 in the treasury at the end of the year.

In regard to the work accomplished, programs furthering health education and discussions of current medical discoveries were given at the meetings. Flowers were sent to sick members and friendly visits made upon them. The social half hours after the business meetings were a source of enjoyment to all the members.

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The February meeting of the Woman's Auxiliary of the Orange County Medical Association was held on February 3 at the home of Dr. Margarete Baker, with Mrs. R. S. Wade and Mrs. K. H. Sutherland assisting hostesses. Mrs. Coulter presided. After the routine business Mrs. A. C. Robbins discussed "Ventriculin," the new specific for pernicious anemia.

Doctor Sutherland, health officer for Orange County, read a paper which he had given before the meeting of the California Tuberculosis Association held in Los Angeles in January. He spoke of the necessity of early diagnosis of tuberculosis and of routine physical examinations. He outlined the work which the Orange County health department is doing in the prevention of tuberculosis: examination of school children in the second and fifth grades; conducting a clinic once a month for the benefit of the indigent; and education of contacts by visiting them in their homes. As most of the cases are among Mexicans (400 per 100,000 to 47 whites per 100,000) the county carries the work of health education into the Americanization classes by showing films and giving radio talks once a month on the prevention of tuberculosis.

Mrs. D. R. Ball suggested that the auxiliary make a donation to the American Red Cross. After some discussion regarding the amount, the motion was carried to devote $20 of the money in the treasury to that purpose.

Jessie Q. Raitt, *Secretary.*

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Los Angeles County

The Woman's Auxiliary to the Los Angeles County Medical Association held its regular meeting Thursday afternoon, February 19, in the Friday Morning Club House, Los Angeles, with a large attendance.

Mrs. Philip Schuyler Doane, newly elected president, presided. She paid high tribute to our former president, Mrs. James Percy, now state president. Mrs. Doane gave us many helpful suggestions, indelibly stamped with her own unique, sparkling wit.

The speakers of the afternoon were: Dr. Edward Huntington Williams and Dr. T. F. Joyce, superintendent of the State Narcotic Hospital at Spadra.

Doctor Williams emphasized the importance of everyone, particularly those interested in public welfare, understanding that drug addiction is a disease. Also, that, as a disease, it should be under the direct control of physicians, not in the hands of laymen as it is at present in most places. He pointed out the possibilities of help by the Woman's Auxiliary in this work, and paid tribute to Doctor Joyce for his success in handling the patients under his care at the Spadra institution.

Doctor Joyce gave an interesting presentation of the methods employed at Spadra in the treatment of drug addicts, particularly the methods of rehabilitating the patients once the immediate effect of the extensive use of the drug had been eliminated.

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* As county auxiliaries to the Woman's Auxiliary of the California Medical Association are formed, the names of officers should be forwarded to the state secretary-treasurer, Mrs. Dexter R. Ball, 2419 Bonnie Brae Street, Santa Ana, and to the California Medical Association office, Room 2004, 450 Sutter Street, San Francisco. Brief reports of county auxiliary meetings will be welcomed for publication in this column.

Doctor Williams, in his address, referred to the high percentage of recoveries at Spadra and stressed the point that it was the ability and the personality of Doctor Joyce himself, more than any one thing, that should be credited for this showing.

The names of the delegates to the state meeting were presented and acted upon unanimously by the members.

A tea served by the Pasadena and South Pasadena members followed. The tables were decorated with huge bowls of colorful blossoms.

A special meeting will be held on March 12 in the Friday Morning Club House, Los Angeles.

Cora Young Williams,
Publicity Chairman.

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Panoramic View of the Woman's Auxiliary to the American Medical Association

According to the Constitution and By-Laws of the Auxiliary to the American Medical Association the organization program is carried on by the active work of the vice-presidents. Mrs. Southgate Leigh of Norfolk, Virginia, is first vice-president and automatically chairman of organization. Due to her location on the map, the second vice-president finds herself interested in the destinies of the north central group of states.

Looking backward with pleasant memories to Detroit and forward with delightful anticipations to Philadelphia, we find this group of states all doing something of common interest.

In the January journal of the Indiana Medical Society, the auxiliary president stresses the importance of more constructive work on the part of her organized county groups. "Physicians' wives," she says, in her New Year's address, "hold an enviable position in being privileged to have a part in a world-wide health program, and I would urge every physician's wife to bring before other women *dependable* knowledge, and a just appreciation of the real spirit and purpose and actual achievements of the medical profession." So from Indiana we know we are to have constructive work during this year. Physicians as a class are not prone to participate in legislative matters, but when four distinctly separate bills which affect the profession directly are presented during one session of a state's legislature, it is time to be up and doing.

Such is Indiana's situation this year, and the doctors of the seventh district have thought it worth while to *instruct* their auxiliary members on these subjects that their influence may be properly used. The Indiana journal never fails to give the auxiliary space, and it is little wonder the Indiana women are up and coming, when they have such editorial notes to enlighten and guide them in their constructive program work, as one finds in this same journal.

Kansas is slowly getting a few things accomplished. A world-wide depression has rendered prophets quite fameless abroad as well as at home, but the doctor's wife in Kansas is coming into her own, and we prophesy that the auxiliary will climb to the top, due to the indomitable spirit of the leaders in that state.

In Illinois the motto might well read, "Builders we are and builders we must ever be. Builders, not in stone that shelters life, but builders in life." We find good constructive programs, of well-balanced educational value; we find a journal ever ready to broadcast auxiliary news; and best of all, we find a healthy organization line-up and an advisory board from their medical society. Several of their county groups are having their members get busy with the Health Audit program.

One project of worthy mention comes from Vermillion County on the eastern boundary of the state. The county auxiliary put on the Health Institute in Danville last November. A member from every agency in the county working out any kind of a health program was included in the personnel of the speakers. It was for just one day, but it was worth three hundred and sixty-five as a rouser for auxiliary work. It really was sort of a Christmas seal campaign opening, a get-together of clubwomen, and Parent-Teacher Assocation groups in the county. And what a wise idea for a medical auxiliary to have the headlines in the plans for such a Health Day.

Wisconsin, Iowa, and South Dakota are among the latest states to join the national auxiliary. Organization is the keynote for their work, and the national study envelopes are offered as program material. Right now if the modern doctor's wife needs to get one thing more than another from her organization, it is the knowledge of what is going on in this world; especially the world of medicine. Women are discriminating more carefully in the clubs they are joining. They are asking what membership will mean to them, what they will get out of it. For that reason the subjects for study should be more carefully chosen, and the roll call should be made to count for something more than jokes and quotations from forgotten poets. It is not a pleasant feeling for a busy mother who rides miles to a meeting to say when it is all over, "I can't say I know any more now than when I started." And so we find these three states getting themselves established on a firm foundation, with the national program envelopes scattered far and wide to aid and encourage auxiliary members already in, and prospective members.

Montana and North Dakota are debating pro and con, but as Mrs. Hoxie said in her Detroit report, "I believe it will be a mistake from now on to organize a new state unless it appears reasonably certain that there is interest enough among the doctors who want the auxiliary, so they will foster it and stand back of it." And so we leave Montana half-hearted about forming an auxiliary, and North Dakota in the air.

We find Michigan giving intelligent coöperation with state and county officials. Women, like men, are interested in the improvement of civic affairs and healthful living, and are realizing that they need to be armed with a definite knowledge of health laws and public health practices.

Missouri is in a very healthy condition. We find that Mrs. A. B. McGlothan, the president-elect of the Woman's Auxiliary to the American Medical Association, will attend President Hoover's White House Conference for Child Health and Protection to be held in Washington, D. C., February 19 to 21. Mrs. G. H. Hoxie, the president for last year, will also attend the White House conference.

Mrs. A. W. McAlester tells us the women of Missouri are finding the study envelopes, published by the Education Committee of the Woman's Auxiliary to the American Medical Association, most interesting and instructive. The studies on "Common Defects in Children," and on "Diphtheria," "Smallpox" and "Typhoid Fever" were recommended by the department of health in the Missouri branch, National Congress of Parents and Teachers for use on Parent-Teacher programs. Eight hundred copies of each were distributed for use in Parent-Teacher units. Three hundred were requested and supplied for use in parent education classes. Requests are constantly coming in for additional copies of the studies for use by teachers and Parent-Teacher units. The department of public information of the Extension Division of the University of Missouri is including these studies in its suggested programs for clubs in the Missouri Federation of Women's Clubs and Parent-Teacher Association programs. This department requested back numbers of *Hygeia* for use in such programs. Three hundred copies of *Hygeia* were supplied by women in the state and by the circulation manager, and are being extensively used in club programs. The Missouri chairman of Public Relations is planning to have a copy of each of the studies.

"Common Defects in Children" and "Communicable Disease Control," sent to each county school superintendent in the state. Several of the county auxiliaries are using the study envelopes in their programs.

Mrs. M. P. Overholser of Harrisonville, Missouri, has been appointed chairman of Public Relations in the Missouri auxiliary. This auxiliary maintains a scholarship for a medical student, per capita quotas being assigned to each county auxiliary.

They also have sent in 30 per cent of the total number of *Hygeia* subscriptions recorded from all auxiliaries from January 1, 1930 to January 1, 1931. Some county auxiliaries provide *Hygeia* for all their teachers. Among these are Buchanan, Gentry, and Lafayette. Cape Girardeau County Auxiliary has just finished paying a $1000 pledge to a hospital in the city, and is now ready for another kind of work. They are a live group and certainly work hard to be able to accomplish so many wonderful worthwhile things.

Minnesota, the North Star State, has had a busy and successful year on organization. The president and organization chairman have visited over the state and planned meetings and educational programs with many county groups. In October the International Medical Assembly met in Minneapolis, and at this time the Hennepin County Auxiliary celebrated its twentieth anniversary by being hostess for five days to the visiting doctors' wives. A great many social affairs and an Educational Day, which included a speaker on public health, were features. Hennepin County is having a year with a definite program. Each month a speaker is scheduled, and one meeting during the year is reciprocity day and each auxiliary in the state is invited to send visitors. This group feature philanthropic work for tuberculous patients at Glen Lake and do much for the library at the sanatorium. They have helped the medical society furnish their library and clubrooms, spending $1000.

Ramsey County does much the same work. They have a Scholarship Fund for medical students. St. Louis County is noted for work in the Public Relations field. The state medical journal gives a page to auxiliary news. One of the other counties takes care of a Nurses' Scholarship. The Minnesota auxiliary has a splendid advisory board and a page in the state journal. The president will be one of the speakers on the program for the annual conference of secretaries of the component societies of the Minnesota State Medical Association to be held in St. Paul the first week in February. This is the first time the auxiliary has been asked to take part in this annual affair. Mrs. Hesselgrave's talk will be, "Uses of the Auxiliary."

And so closing my review of the work of the north central group of states, may I say again, builders we are and builders we must ever be; builders, not in stone that shelters life, but builders in life itself, ever remembering the future of the world for generations to come depends upon what we think and will and do today.

MRS. JAMES BLAKE.

NEVADA STATE MEDICAL ASSOCIATION

W. A. SHAW	President
R. P. ROANTREE, Elko	President-Elect
H. W. SAWYER, Fallon	First Vice-President
E. E. HAMER, Carson City	Second Vice-President
HORACE J. BROWN	Secretary-Treasurer
R. P. ROANTREE, D. A. TURNER, S. K. MORRISON	Trustees

ANNUAL SESSION OF THE NEVADA STATE MEDICAL ASSOCIATION

First Scientific Meeting

Call to Order.—The twenty-seventh annual meeting of the Nevada State Medical Association was held at Reno September 26 and 27, 1930. The meeting was called to order by President W. A. Shaw at 10 a. m. The president's address of welcome was followed by the scientific program.

Papers were presented by:

George R. Magee, Yerington, on "Relapsing Fever." Discussed by D. S. Pulford, W. H. Hood, P. R. Bowdish, and R. V. Schofield.

Stanley H. Mentzer, San Francisco, on "New Methods in the Technique of Cholecystectomy." Discussed by C. F. Dixon, J. P. Kerby, D. S. Pulford, C. E. Piersall, and Horace J. Brown.

D. Schuyler Pulford, Woodland, California, on "Benzol Poisoning—A Report of a Case Simulating Aplastic Anemia and Hemorrhagic Purpura." Discussed by G. R. Magee.

Ralph A. Bowdle, East Ely, on "Spinal Anesthesia." Discussed by R. P. Roantree, M. A. Robison, F. D. Spencer, S. H. Mentzer, and R. V. Schofield.

Benjamin Jablons, New York City, on "Hypertension." Discussed by S. K. Morrison, D. A. Turner, F. D. Spencer, A. Huffaker, and T. W. Bath.

First Business Meeting

Reading of Minutes.—On motion made and seconded, the reading of the minutes of the last annual session was dispensed with.

* * *

New Members.—The following were elected to membership: Z. A. d'Amours, F. R. Mildren, R. W. Martin, R. Balcom, N. A. Michelena, J. N. Van Meter, J. Vander Meulen, Las Vegas, Nevada; E. E. Hinckley, Ely, Nevada; D. J. Hurley, Eureka, Nevada; P. R. Bowdish, H. B. Perry, Reno, Nevada; George F. Pierrot, Goldfield, Nevada; George H. Ross, Virginia City, Nevada; Noah Smirnoff, McGill, Nevada; R. J. Sewall, Hawthorne, Nevada; R. L. Taylor, Kimberly, Nevada.

* * *

Committee Reports:

Necrology.—On motion of M. A. Robison, seconded by D. A. Turner, resolutions of respect were authorized to be sent to the families of Alexander McIntyre and Halle L. Hewetson, both deceased.

Military Affairs.—T. W. Bath, chairman, read the report of the Committee on Military Affairs.

* * *

Charters.—The Clark County Medical Society was granted a charter on motion of R. A. Bowdle, seconded by W. L. Samuels.

* * *

Honorary Members.—It was moved by Horace J. Brown, seconded by D. A. Turner, and passed, that all visiting essayists be made honorary members and that the secretary notify each of them.

* * *

Resolutions Read from Minnesota State Medical Association.—The secretary read a communication from the Minnesota State Medical Association's Committee on Military Affairs. Moved by D. A. Turner, seconded by Horace J. Brown, and carried, that a similar resolution be drawn by this Association and copies sent to the proper officers.

* * *

Resolutions Adopted by the Nevada State Medical Association:

1. *Resolution on Military Affairs.*

Whereas, The present army regulations require that every reserve officer shall, during each five-year commission period, put in two hundred (200) hours military work in camp, correspondence school, inactive training meetings, or similar military activity, or else become ineligible for renewal of his commission with assignment to an organized reserve unit, and therefore revert to the "auxiliary reserve" in time of peace; and

Whereas, There are many highly trained, highly skilled and very active physicians who, as reserve officers, have been assigned as chiefs and assistant chiefs of surgical, medical, laboratory, roentgen and other distinctly professional services in organized reserve hospital units, carrying very little administrative responsibility, and whose professional duties in busy private lives make them especially well fitted for their duties in their army assignments, but whose same duties make it practically impossible for them to carry on military work in time of peace; and

Whereas, Many of these men and their valuable attainments are being lost to the organized reserve, although they are willing and anxious to serve in time of need and do not aspire to advancement in grade; therefore, be it

Resolved, That the Nevada State Medical Association, desiring that the medical profession may be of the greatest service to our country, respectfully suggests that the service might be enhanced if the regulations were changed to provide for recommission and reassignment of chiefs and assistant chiefs of professional services of hospital units even though they have not completed the required amount of military work; and further, be it

Resolved, That a copy of this resolution be sent to the surgeon and the commanding general of the Ninth Corps Area, the surgeon general, the officer in charge of reserve affairs, the adjutant general, and the chief of staff of the United States Army.

2. *Resolution on Food Fads.*

Whereas, Much misinformation is promulgated today concerning the question of diets, thus causing the introduction of food fads, very few of which can take the place of the older staple foods; and

Whereas, Any balanced diet should contain animal protein, fruits, vegetables (especially the leafy vegetables), and the better grades of bread prepared from flour which will insure adequate vitamin and mineral salt content, digestible fat (such as butter fat), and sufficient of the digestible carbohydrates to afford readily available energy; and

Whereas, The allegation that white bread, meat, or any other staple food, when employed in mixed diet is responsible for certain grave illnesses, is not supported by scientific facts; therefore be it

Resolved, That we desire, in the public interest to place on record that, in our opinion:

1. The exaggerated claims for various fad foods are unwarranted by scientific evidence or practical experience; and the advertising and other propaganda furthering their substitution for the older articles of diet should be condemned.

2. The danger of nutritional deficiencies has been grossly exaggerated. No one food is a perfect food; but a diet consisting of dairy products, leafy vegetables, fruits, meats, and easily digested starches furnishes an excess of all food factors necessary for proper growth and nutrition and resistance to disease.

3. Any variation from a normal diet should be prescribed only by a properly trained physician after a careful study of the dietary requirements of the individual seeking advice.

Adopted by the Nevada State Medical Society at their annual session assembled at Bowers Mansion, Nevada, September 26, 1930.

* * *

Military Record.—Moved by Horace J. Brown, seconded by D. A. Turner, that the Committee on Military Affairs be continued and that this committee be instructed to keep a record of the qualifications for military service of the physicians of Nevada State.

* * *

Election of Officers.—The following officers were elected to serve for the ensuing year: President-elect, A. C. Olmsted, Wells; first vice-president, E. E. Hamer, Carson City; second vice-president, W. H. Frolich, East Ely; secretary-treasurer, Horace J. Brown, Reno; trustee for three years, S. K. Morrison, Reno; trustee for two years, W. L. Samuels, Reno.

Nineteen Thirty-Two Meeting Place.—On invitation of the White Pine County Medical Society, Ely was selected as the meeting place for the next annual meeting.

* * *

Adjournment.—There being no further business the meeting was adjourned to meet at 9 a. m. September 27.

Second Scientific Meeting

Call to Order.—The second scientific meeting of the annual session of the Nevada State Medical Society was called to order by the president at 9:35 a. m. September 27, 1930, at Bowers Mansion, Reno. After the reading of several telegrams the scientific program followed:

C. F. Dixon, Rochester, Minnesota, spoke on "The Clinical and Surgical Aspects of Diseases of the Biliary Tract." This paper was discussed by S. H. Mentzer, S. K. Morrison, Horace J. Brown, and C. E. Piersall.

Albert H. Rowe, Oakland, discussed "The Treatment of Bronchial Asthma" and Edward Matzger, San Francisco, spoke on "Seasonal Hay Fever and Seasonal Asthma—A Preventable Disease." These papers were discussed by J. A. Fuller, B. Jablons, R. S. Tillotson, D. S. Pulford, A Huffaker, and P. R. Bowdish.

James T. Watkins, San Francisco, talked on "The Treatment of Severe Flexion Deformities of Hip and Knee Following Neglected Infantile Paralysis." C. F. Dixon and T. W. Bath discussed Doctor Watkins' article.

Second Business Meeting

Introduction of New President.—Dr. R. P. Roantree of Elko was introduced by W. A. Shaw, and took his seat as president.

* * *

Condolences to Injured Members.—The new president, after a few well-chosen remarks, appointed M. A. Robison a committee of one to convey messages of sympathy to B. H. Caples and W. G. Hunter, both of whom are suffering from injuries sustained in automobile accidents.

* * *

Adjournment.—There being no further business the meeting was adjourned.

* * *

Members in attendance at various times during the meeting: Ralph A. Bowdle, Horace J. Brown, P. R. Bowdish, Thomas W. Bath, Anna De Chenne, E. L. Creveling, John A. Fuller, Arthur Grover, F. H. Harrison, W. H. Hood, A. Huffaker, D. J. Hurley, E. E. Hamer, A. J. Hood, Dwight L. Hood, Arthur E. Landers, G. R. Magee, S. K. Morrison, V. A. Muller, A. C. Olmsted, H. B. Perry, C. E. Piersall, R. P. Roantree, George H. Ross, M. A. Robison, J. T. Rees, George L. Servoss, W. A. Shaw, Harry W. Sawyer, W. L. Samuels, G. R. Smith, A. L. Stadtherr, D. A. Turner, M. R. Walker, and C. W. West.

Honorary members and visitors also present during the meeting: E. Benjamin, Foster J. Curtis, Dan Coll, C. F. Dixon, W. Henderson, Albert Harris, Benjamin Jablons, James P. Kerby, Edward Matzger, Stanley H. Mentzer, Kaspar Pischell, D. Pulford, Albert Rowe, Noah Rouse, R. R. Rosell, R. Schofield, F. D. Spencer, Richard Travers, J. P. Tuttle, R. S. Tillotson, James Thom, James Watkins, R. Woolsey, and J. Wright.

* * *

Report of Military Committee on Military Affairs. In casting about for an appropriate subject upon which to report, after a retrospect of thirty years, most of which time your chairman has been connected with the United States Army, either in active or reserve service, the following subject of "Preparedness of the Medical Profession of the United States for the Event of War" has been chosen as pertinent for this occasion.

Including the Revolutionary War the United States has been engaged, in its one hundred and fifty-four years of independence, in six major wars.

One hundred and fifty-four years ago our forefathers believed that the United States was an isolated country, as we had no enemy contacts north or south, and separated from Europe by the Atlantic, we would be in no danger from invasion. But one and one-half century has so changed the world's condition that but few days are now required to cross the Atlantic, as compared with thirty to forty days' sailing time in the days of the Revolution. Our national policy handed down to us by our forefathers has been one of faith in our creative ability to rapidly organize an army or navy for offense or defense. The sad fallacy of an inadequate military force was never better illustrated than during the days of the Civil War. If the Federal Government had a regular army of seventy-five thousand trained and equipped troops, one of two things would have resulted: either secession would have been nipped in the bud, or the Civil War would have ended after the first battle.

This lack of preparation in military and naval affairs, so far as it pertains to the fighting personnel, is just as true with reference to the military medical personnel.

Experience both in the Spanish-American War, the Philippine Insurrection, and the World War has shown that in time of war emergency the medical personnel is inadequate to the needs of the emergencies by reason of one outstanding fact. The lack of proper selection of physicians, surgeons, dentists, and laboratory technicians in peace times.

Just after the United States entered the World War a prominent writer for the *Saturday Evening Post* declared that now things were going to be done right for once in the military history of the United States. His words were: "A square peg for a square hole." Those of us medical officers who served either at home or abroad in the World War know, and know with humiliation, that whoever it was that directed the placing of the medical personnel knew that it was about a fifty-fifty break that square pegs were set in round holes and round pegs in square holes. Hence the object of this paper, based as we have said on an experience in three foreign campaigns, is to offer some reasonable suggestions to the War Department to assist in placing square pegs in square holes.

The procedure would be as follows: At the annual meeting of the various state medical societies, let there be a military committee appointed who will have charge of the medical military affairs of their respective states. In larger states this committee could have as many submilitary committees appointed as needed, but all committees or subcommittees must have a personal knowledge of the professional fitness of every man. This means that he must be of military age, of sound health, not a drug addict, drunkard or professional poker player. We have had personal and bitter experience with all three types and know that they are absolutely worthless for military duty.

Further, the professional qualifications, as stated above, should be known to every member. If you open the American Medical Directory, on almost any page you see men who have listed themselves as surgeons, urologists, gynecologists, and internists, whom you know have absolutely no right to make such claims, as they never have had any training, either theoretical or practical, which would entitle them to delegate such honors to themselves.

Now in order to complete the list of available men with their qualifications, the list should be compiled and passed upon every year by the Military Committee of the state medical society. When approved by the state society a copy of the same should be forwarded to the surgeon-general's office through military channels.

Now in the event of war, what would occur? Would the surgeon-general be up in the air, so to speak, in order to be able to secure the main supply of medical men from civil life? No. With the medical personnel of the regular army, the National Guard and the Reserve Corps, the first and immediate emergency has been cared for. But these three branches of the service being inadequate, all the surgeon-general or secretary of the navy would need to do would be to get in touch with the Military Committee of each state. The surgeon-general, with the open list before him, could feel the assurance that available men for special work were there ready to serve upon call.

The average medical man knows nothing of military affairs, but the executive work could and would be directed by the regular establishment.

This brief outline will, we believe, convince you that the medical profession of the country would show a willingness to coöperate intelligently with the Government in rendering an important aid for rapid mobilization.

Now the next thing is, if this report has any value, to have this society continue this committee and let the chairman correspond with the secretary of every state medical society and endeavor to secure their approval of this measure. Then the various committees can report to the American Medical Association or see that the American Medical Association appoints a similar committee. Then we can work as an intelligent unit. Otherwise we will, as the Britishers say, "Muddle through it somehow."

Your chairman is only suggesting those things which will come in some form or other in the next war. Already the American Legion has approved and urged upon Congress the principles of universal draft, which will apply to every able-bodied man of military age.

We hope you will approve of this report, as we think it is a step in the right direction, for as citizens of the glorious republic, if our country is good enough for us to live in, it is worth fighting for.

COMPONENT COUNTY SOCIETIES

WASHOE COUNTY

The Washoe County Medical Society held its regular monthly meeting in the Nevada State Building on the evening of February 10. In the absence of Doctor Creveling, president, Dr. M. A. Robinson occupied the chair.

After the usual routine of business was finished, the program for the evening, a symposium on the subject of pneumonia, was opened. It had been the intention of the Program Committee that the program for the evening should consist of about eight papers; the papers to be limited to about seven minutes each. Two of the members failed to appear by reason of the professional business of this season of the year being extraordinarily heavy. Dr. Arthur Grover, pathologist at St. Mary's Hospital, read a brief paper on the "Bacteriology and Pathology of Pneumonia." Dr. Dan Coll of Susanville, who traveled nearly one hundred miles to be present at this meeting, read a paper on "Complications of Lobar Pneumonia." Doctor Thom of Carson City read a paper on "Surgical and Traumatic Pneumonia." Doctor Weldon read a paper on the "Treatment of Pneumonia"; Doctor DaCosta gave a paper on the "Use of Oxygen in Pneumonia"; and Doctor Piersall showed a number of x-ray pictures dealing with the visual aspects of pneumonia. These papers were all excellently prepared. It would be invidious to draw comparisons, as every speaker showed that he had thoroughly studied the subject, both from the point of books and from the point of experience.

Some of the main points developed were, that while dwellers by the sea coast frequently remarked upon the high incidence of pneumonia near the sea, those who live in the mountain plateaus, as the area of Reno comprises, are apt to think that the death rate in the high altitudes is greater than in other places. However, such is not the case. The statistical survey of pneumonia is similar to that compiled for the epidemic of the flu, with reference to its severity. In some years, the type of pneumonia seems to be very fatal; such has been the case in Reno and vicinity for the past winter. If it had been possible to make bacteriological cultures to determine the type, it might possibly be that we could determine the type, but we would be on the threshold of despair with reference to suggesting a cure. It has been the experience of practitioners during the mild epidemic of pneumonia during this winter that individuals over forty years of age rarely survive, and that the drinking man can count upon an early entrance into Paradise, in usually from three to five days.

It is the belief of the Nevada profession that, as near as could be judged from clinical aspects, coupled with what bacteriological work that has been done, including a few postmortems that have been held, we have encountered all of the four types of pneumonia as described in textbooks. True bronchial pneumonia is, in the beginning, difficult to diagnose by the usual clinical manifestations. In many instances it has turned out to be a true lobar pneumonia, as confirmed by postmortem and examination.

In the discussion it was brought out that everything that had ever been used in antigens and vaccine had been given a trial, with the exception of diathermy. It is hoped that our present hospitals will be able to install a diathermic outfit whereby hospitalized patients can be treated by this type of therapy in the future.

There were sixteen members present.

Thomas W. Bath, *Secretary.*

NEVADA NEWS

The Elko County Medical Society met on January 13 and elected the following officers for 1931: H. Earl Belnap, president; C. E. Secor, vice-president; John E. Worden, secretary-treasurer; J. R. Eby, council.

The staff of the Elko General Hospital met on January 13 and elected the following officers: W. A. Shaw, chief of staff; R. P. Roantree, vice chief of staff; John E. Worden, secretary.

Ralph A. Bowdle, East Ely, is convalescing following an operation for hernia.

Nestor A. Michelena has moved from Las Vegas to Los Angeles.

H. B. Perry has moved from Reno to Virginia City, where he has accepted the appointment as county physician for Storey County.

UTAH STATE MEDICAL ASSOCIATION

WILLIAM L. RICH, Salt Lake City..........President
R. A. PEARCE, Brigham City..........President-Elect
M. M. CRITCHLOW, Salt Lake City..........Secretary
J. U. GIESY, 701 Medical Arts Building,
Salt Lake City..........Associate Editor for Utah

OFFICIAL NOTICE

On February 3 the Utah State Medical Association went on the air for short health talks of five minutes' duration twice weekly.

It is hoped that this effort to broadcast subjects of interest to the public without mention of any subject-matter beyond mere facts pertaining to disease and its control, may prove of benefit.

The material broadcast is being furnished by members of the state association and by the radio service of the American Medical Association.

It is desired at this time to invite any member of the state association who is interested, to write papers on timely subjects for use in this work. They will be welcomed by the State Committee on Public Health, under which committee the work has been undertaken.

For the information of those who may desire to contribute to the programs, the following three suggestions are printed:

1. Papers shall be not less than 600 nor more than 700 words in length.

2. Write in plain language; avoid scientific terms as far as possible. Remember you are talking to the people, not scientists.

3. Papers should be typewritten or plainly written on one side of paper only, and double spaced.

We will welcome such papers. Address them to State Medical Association Radio Program, 701 Medical Arts Building, Salt Lake City.

COMPONENT COUNTY SOCIETIES

BOX ELDER COUNTY

The regular meeting of the Box Elder County Medical Society was held at Brigham on January 8. Dinner at the Paris Grill preceded the meeting. Those present were: Doctors Mahannah, Pearse, Weymuller, Cooley, Luke, and Betensen. As this was a regular business meeting no paper was read.

A communication was sent to the Board of Education, giving the details of the examination of school children by the society for the board.

The association went on record as not in favor of making an assessment for the decoration and maintenance of the medical salon in Pershing Hall in Paris.

It was decided to notify principals and athletic coaches that from now on the society members would charge regular prices for medical and surgical work done for the schools.

The meeting was adjourned until February 12. The meeting was held at Garland.

R. A. Pearse, *Secretary.*

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SALT LAKE COUNTY

The regular meeting of the Salt Lake County Medical Society was held at the Newhouse Hotel on Monday evening, January 12.

The meeting was called to order at 8:04 o'clock by President F. M. McHugh. One hundred and four members and one visitor were present. Dr. F. H. Raley acted as temporary secretary.

Dr. J. P. Tuttle addressed the society upon "Prostatitis and Referred Pain." This paper was discussed by Dr. R. Friel (upon invitation) and Dr. L. N. Ossman.

The postponed report of the Fee Schedule Committee was read by the secretary, and Doctor Kerby moved that it be filed. Motion seconded and carried.

Dr. D. G. Edmans gave a report of a meeting of the various representatives of professions and trades licensed under the Department of Registration. He stated that the taxes levied by the Department of Registration went into the general state fund and that a much smaller budget was voted biennially.

Dr. J. C. Brown moved that Dr. A. A. Kerr be made an honorary member. Motion seconded and carried.

The application of Dr. Ray J. Friel was read and turned over to the board of censors.

Dr. Ray Woolsey discussed the plan of informing the public over the radio that regular members of the Salt Lake County Medical Society were listed on the front page of the telephone book. He moved that it be the sense of the society that such radio announcements that were necessary regarding this subject be left to the judgment of the president. Motion seconded. This was discussed by Doctors L. Paul, F. M. McHugh, B. E. Bonar, C. J. Albaugh, C. M. Benedict, and J. Z. Brown. Dr. L. N. Ossman amended a motion to the effect that the society should not use the broadcasting time of any commercial establishment for this purpose. Amendment seconded and motion carried.

Dr. Ray Woolsey spoke on hourly nursing and mentioned the fact that the official nurses' register could supply hourly nursing.

* * *

The regular meeting of the Salt Lake County Medical Society was held on Monday evening, January 26, at Holy Cross Hospital. Fifty-three members and five visitors were present. President F. M. McHugh called the meeting to order at 8 o'clock.

The following clinical program was presented: "Megacolon," by B. E. Bonar; "Splenomegaly," by T. W. Stevenson; "Pellagra," by J. W. Sugden; "Uroselectan," by J. P. Kerby and W. G. Schulte.

The applications of Dr. Charles C. Goldthorp and Dr. Charles C. Johnson were read and referred to the board of censors.

Dr. J. C. Brown moved that the Committee on Public Health and Legislation become active during the public hearings held in regard to pending legislation on the state income tax. Motion seconded and carried.

Dr. C. L. Shields stated that the Committee on Economics was to send a questionnaire regarding the advisability of the county society organizing a collection bureau.

* * *

A joint meeting of the Salt Lake County Medical Society and the Utah Ophthalmological Society was held on Monday evening, February 9, at the Newhouse Hotel. Thirty-two members and three visitors were present.

The meeting was called to order by President F. M. McHugh at 8:10 o'clock.

The following program was presented: "Certain Eye Conditions of Importance to the General Practitioner," by F. R. Slopanskey; "Some Diseases of the Nose and Their Relationship to Diseases Elsewhere in the Body," by Fred Stauffer. These papers were discussed by L. W. Snow, F. L. Stauffer, A. N. Leonard, R. Pendleton, G. N. Curtis, M. M. Critchlow, B. I. Burns, H. Van Cott, and D. A. Harvey.

The application of Dr. T. C. Weggeland and Dr. L. L. Daines were read.

Dr. R. J. Friel was unanimously elected a member of the society, and Dr. H. C. Goldthorpe and Dr. Charles C. Johnson were unanimously elected associate members.

Dr. M. M. Critchlow moved that a voluntary assessment of $1 be levied to help pay for the Physicians' Room in the Memorial Building in Paris, France, to be erected to the memory of men who died in the World War. This motion was discussed by Doctors J. P. Kerby, W. F. Beer, and J. A. Phipps. Motion seconded and carried.

Dr. B. I. Burns moved that the secretary be instructed to inform the Committee on Public Health and Legislation that an antivivisection bill was to be presented to the Utah state legislature. Motion seconded and carried.

Barnet E. Bonar, *Secretary.*

UTAH COUNTY

The regular meeting of the Utah County Medical Society was held on the evening of January 7 at the Hotel Roberts.

After dinner the scientific program was given by Doctors Gill and Ralph Richards of Salt Lake.

Dr. Gill Richards spoke on "A Recent Survey of San Francisco as a Medical Center."

Dr. Ralph Richards spoke on "Thyroid and Parathyroid Surgery."

The February 4 meeting, also held at Hotel Roberts, was devoted chiefly to a paper by Dr. Garn Clark on "The Value of X-Ray in Goiter."

Arnold Robison, *President.*

WEBER COUNTY

The regular meeting of the Weber County Medical Society was held January 22 at the Green Gables Inn, 2602 Madison Avenue.

President E. P. Mills announced the members on the Committee of Public Health and Education for the year of 1931 to be: Doctors J. R. Morrell (chairman), R. L. Draper, and J. F. Wickstrom.

The applications for membership of Dr. Orson S. Daines of Devil Slide and Dr. Oscar W. French of Coalville were favorably passed by the Committee on Censorship, and voted members by the society.

The program of the evening was a moving picture film from Davis and Geck on "Traumatic Surgery of the Extremities."

Conrad H. Jensen, *Secretary.*

Saving State Money by Treatment of Disease.—There are many paradoxes in life, but probably none more expensive to the public and to civilization than the habit of ignoring the existence of venereal diseases on moral grounds while paying for the death or insanity that follows on the grounds of charity. A business man who closes his eyes to an avenue of heavy loss because he dislikes the thought of it, does not remain in business long.

It is estimated that there are 5,000,000 such cases in the United States, and 423,000 new cases each year. These figures are of course approximate, but that there is some accuracy in them is indicated by the fact that about 15 per cent of admissions to state hospitals for the insane arise from earlier, untreated or badly treated venereal cases. Many of these cases went untreated because of the individual's fear of public disapproval, and others because of a lack of funds. It would pay the public to invest a few dollars in treatment rather than spend many dollars when it is too late to do any good.

Among the few agencies which are striving to save public money by offering treatment to venereal patients without money in order to prevent them from later becoming public charges is the University of California Hospital Out-Patient Department. Under the direction of Dr. Howard Morrow and Dr. Hiram Miller a clinic has been built up for this purpose, and during the year 1929-30, they report, 16,167 treatments were given. Almost one-third of these treatments were given at night in order that patients should not be taken from work and the chances of their becoming public charges might be lessened still further.

The doctors state that in most cases the syphilitic infection can be cured; and in others it can be controlled. Unfortunately, the work of the clinic is handicapped by a lack of space and a lack of funds. Cases which should be placed in bed cannot be taken because there are no beds and no money to provide them. Because of the fact that the university accepts only those cases unable to pay regular hospital and doctor's fees, the patients cannot help themselves.

This clinic is only one of many clinics in the out-patient department, and only one of the number which are handicapped for space and funds. It would result in a saving of public money to increase these facilities.

MISCELLANY

Items for the News column must be furnished by the twentieth of the preceding month. Under this department are grouped: News; Medical Economics; Correspondence; Department of Public Health; California Board of Medical Examiners; and Twenty-five Years Ago. For Book Reviews, see index on the front cover, under Miscellany.

NEWS

Meeting of California and Nevada Section of the American College of Surgeons.—Further notice of the meeting of the California and Nevada Section of the American College of Surgeons is brought to the attention of members of all California and Nevada medical associations by the following letter, which is self-explanatory and which has been sent to secretaries of all the county medical associations in California and Nevada and to the superintendents of all the hospitals in California and Nevada.

It is hoped that because of the interesting and instructive program provided that all members of the profession who possibly can will plan to take in this Section. The official notices of the meeting read as follows:

The annual meeting of the California-Nevada Section of the American College of Surgeons with the states of Arizona, Oregon, Washington, Utah, Idaho, and the province of British Columbia will be held in Oakland, California, April 23, 24, 25 and 26, 1931. It is the desire of the Fellows of the college in this district to extend to the profession an invitation to attend the general conferences and clinics.

An unusually interesting and instructive program will be presented during this meeting. It will consist of clinics in Oakland's new and modernly equipped hospitals and general conferences conducted by the College of Surgeons at the Hotel Oakland.

One of the features of the activities of the College of Surgeons is the public health meeting. This year it will be held in the Greek Theater, University of California, on Sunday afternoon, April 26. There will be representative speakers from the East, West, and other centers of the United States. This will be one of the greatest public health meetings ever held.

Preceding this meeting, the Western Hospital Association will have its annual meeting in Oakland on April 22 and 23, and following the meeting will be the annual meeting of the California State Medical Association in San Francisco, April 27, 28, 29, and 30.

A bulletin outlining the program will be mailed to each member of the profession shortly before the meeting date. Reservations for hotel accommodations can be made by addressing Dr. W. E. Mitchell, 2068 Allston Way, Berkeley, California, or by addressing the secretary, Dr. Charles A. Dukes, 426 Seventeenth Street, Oakland, California.

A banquet will be given at the Hotel Oakland, the convention headquarters, on Saturday evening, April 25, to which the medical profession and their wives are invited. Reservations for this banquet can be made through the secretary.

CHARLES A. DUKES, *Secretary.*

University of California Medical School.—Dr. William J. Kerr, professor of medicine at the University of California Medical School, spoke before the Portland Academy of Medicine, Portland, Oregon, on February 12, 1931, the subject of his address being "Recent Experimental Studies on the Peripheral Circulation with Special Reference to Raynaud's Disease." He talked on the same subject before the King County Medical Society, Seattle, Washington, on February 9, 1931.

The College of Medical Evangelists held the third annual series of medical lectures under the Colver Lectureship. These lectures were delivered by Dr. H. Gideon Wells, professor of pathology, University of Chicago, on the evenings of February 17, 18, and 19, 1931, at Patriotic Hall, Los Angeles.

Assistant Professor of Anatomy.—The staff of the University of California Medical School has just been augmented by the appointment of Dr. John B. deC. Saunders, formerly of the University of Edinburgh, Scotland, to the position of assistant professor of anatomy.

Doctor Saunders was trained at the University of Edinburgh, gaining the degrees of bachelor of medicine and bachelor of chemistry in 1925. In 1930 he was made a Fellow of the Royal College of Surgeons.

Among former positions that he has held are: assistant lecturer in physiology, demonstrator in anatomy, and lecturer in applied anatomy at the University of Edinburgh; lecturer in applied anatomy at the Dunfermline College of Physical Culture and Hygiene; honorary clinical assistant in surgery at the Royal Hospital for Sick Children, Edinburgh; honorary clinical assistant in medicine at the University of Edinburgh, and honorary senior resident house surgeon at the Royal Hospital, Edinburgh.

Scripps Metabolic Clinic.—Dr. O. H. Perry Pepper, professor of medicine, University of Pennsylvania, Philadelphia, held classes at the Scripps Metabolic Clinic from January 8 to January 10 inclusive, and delivered an address on Saturday, January 10, on the subject, "A Consideration of the Secondary Anemias."

The Study of Goiter.—Meeting of the American Association for the Study of Goiter will be held April 7, 8, and 9 at Kansas City, Missouri. Diagnostic clinics, clinical pathological conferences, round table discussions, and a symposium on The Goiter Heart will be given by leading goiter specialists of the United States and Canada.

Postgraduate Course in Perimetry.—Dr. Clifford B. Walker will give a course of eight lectures in Perimetry at the request of the neurologic and ophthalmologic residents of the Los Angeles County General Hospital. The course is to include a comprehensive survey of the subject of perimetry, its technique, and practical demonstrations on patients. The first session will be held at the General Hospital, Thursday, March 5, 1931, at 8 p. m. If necessary, the day and hour will be changed to meet the approval of the majority enrolled. At present the plan is to have one lecture each week. The fee is $25 for the entire course, or $5 per lecture.

Doctor Walker has done much of the pioneer work in this field and is one of the prominent authorities on this subject in this country. Much of his early work was done in the clinics of Dr. Harvey Cushing.

Dr. Eugene Ziskind, 718 Professional Building, Los Angeles, is receiving enrollments for the course.

The Western Branch of the American Public Health Association will meet at Seattle, Washington, on May 28, 29, and 30, 1931. Headquarters are at the Olympic Hotel, and local arrangements are in charge of Dr. E. T. Hanley, city health officer.

The Western Branch of the American Public Health Association was organized two years ago for the purpose of giving particular attention to western public health problems and offering persons interested in public health work in the West an opportunity to meet and exchange views and experiences. One of the guiding principles of the Western Branch is to coöperate with and seek the coöperation of the practicing medical profession. Programs are especially arranged to attract them, and they are extremely welcome at these meetings.

Bulletin of the Los Angeles Maternity Service.—The Maternity Service is publishing a monthly bulletin of from two to six pages, containing notes on clinical obstetrics, and giving technique, procedures, clinical teaching, and illustrative case histories from the Maternity Service of the Los Angeles City health department and the obstetrical department of the Los Angeles General Hospital.

The bulletin is perforated for filing in a pocket-size Irving-Pitt binder. It is edited by Lyle G. McNeile, M. D., director of the Maternity Service.

The bulletin, although published monthly, is mailed quarterly to subscribers. Subscription, $1. Subscriptions may be placed through Los Angeles Maternity Service Association, 225 North Main Street, Los Angeles.

Medical Clinic in Paris.—At the Hôpital de la Charité, 47, Rue Jacob, Paris, Professor Sergent, member of the Academy of Medicine, will give ten lectures on the diseases of the lung, with x-ray projections and anatomical specimens. Each lecture will be followed by practical demonstrations by MM. Bordet, Turpin, Kourilsky, Benda and Iselin, occupying the positions of former clinical chiefs and clinical chiefs of the clinic. The lectures will take place from July 6 to July 11, 1931. Fee, 500 francs ($20). The afternoon will be devoted to theoretical lectures (from 2:30 to 3:30, and from 4 to 5). In the morning, practical demonstrations will be held in the wards under the guidance of Professor Sergent. For further information and registration, apply to the Association pour le Dévelopment des Relations Médicales, Salle Béclard, Faculté de Médecine, Paris (6e).

The Semiannual Alumni Day at the University of California Medical School will be held on Tuesday, March 24, 1931, at the University of California Hospital, Parnassus and Third avenues, San Francisco.

During the morning, there will be operative clinics in general surgery, neurosurgery, gynecology, urology, otorhinolaryngology, ophthalmology and orthopedic surgery, pediatric ward rounds, and a medical staff conference. In the afternoon, the program will include lectures and demonstrations on various subjects. A detailed program will be mailed to the alumni about March 1.

Lectures and Demonstrations by Doctor Adler.—Dr. Herman Adler, professor of psychiatry in the Bureau of Public Administration of the University of California (university lecturer in the Medical School for the year 1930-31), will hold lectures and demonstrations at the Medical School as indicated below:

Tuesday, March 3, 12 noon to 1 p. m., Toland Hall, University Hospital.

Saturday, March 7, 11 a. m. to 12 noon, Amphitheater, San Francisco Hospital. (Clinical demonstration.)

Tuesday, March 10, 12 noon to 1 p. m., Toland Hall, University Hospital. (Clinical demonstration.)

Members of the faculty of the school and other interested persons are cordially invited to attend.

The lectures on March 3 and March 10 will take place of the fourth-year class, usually held at that time; and the lecture on March 7 will be substituted for the third-year class which is scheduled for 11 a. m. on Saturdays.

The Gorgas Memorial Institute of Tropical and Preventive Medicine, Incorporated, with executive offices at 1331-33 G Street N. W., Washington, D. C., recently reported on its work. Of special interest are the following comments on the Gorgas Memorial Laboratory of which Dr. Herbert C. Clark is the director:

"An Act (H. R. 8128) to authorize a permanent annual appropriation of $50,000 for the maintenance and operation of the Gorgas Memorial Laboratory was passed by the United States Government in May 1928. The permanency of this appropriation was contingent upon the possibility of the Gorgas Memorial Laboratory securing ownership of its quarters and sufficient land for development either in Panama or the Canal Zone before the end of five years. Since January, 1929, we have been occupying as temporary quarters a building erected by the Republic of Panama. This was a new building originally erected to house a medical school and had been standing idle for about two years. In April, 1929, the President of the Republic of Panama, through the Secretary of Agriculture and Public Works, ceded this building and the block of land surrounding it to the Gorgas Memorial Laboratory, subject to the approval of the next regular session of its National Assembly. This gift was accepted by the Gorgas Memorial Institute under the conditions named. A regular session of the National Assembly of Panama convened September, 1930, and it is a pleasure to report that it has approved in every detail the ceding of the building and sufficient land for future development. This act by the Republic of Panama places in perpetuity the annual appropriation of $50,000 by the United States for the operation and maintenance of the Gorgas Memorial Laboratory. Title to our property and assured operating funds will make it easier to secure other funds for growth and a permanent staff."

Southern California Medical Association.—The eighty-fourth semi-annual meeting of the Southern California Medical Association will be held at Hotel Del Coronado on Friday and Saturday, April 10 and 11. Dr. Walter C. Alvarez of Rochester, Minnesota, will be a guest of the association; also Professor Von Groer of the University of Lemberg, Poland.

The Third International Congress of Radiology will occur in Paris from July the 26th to the 31st of the present year. This congress is a fairly comprehensive affair, and everything that is new in the science of radiation and allied subjects is brought before the members by the outstanding men in different parts of the world.

COUNTY HOSPITALS OF CALIFORNIA

On What Legal Basis Do They Rest—What Citizens Have the Right of Admission—What Citizens Are Ineligible—What Legal Rights Have Attending Physicians to Charge Ineligible citizen Patients for Professional Services Which Were Rendered?

Through Dr. Neal N. Wood, superintendent of the Los Angeles County General Hospital, the editor has been able to have access to one of the files of the Los Angeles County General Hospital containing letters and opinions on the legal basis of county hospitals in California and of their scope and activities.

These hospitals largely exist since from their very inception, members of the medical profession in every county in the state which maintained a county hospital have given gratuitous professional services to the in and out patients of such institutions. As a matter of fact the members of the medical profession are the one group of citizens who are differentiated from other citizens through such constant massive gratuitous contributions.

With the shifting standards of modern civilization there can be little doubt that in latter years this gratuitous service, which was primarily intended to be given only to indigent fellow citizens who were sick or injured, has been taken advantage of by many lay citizens who were not of such class.

Members of the medical profession of California, by and large, may be said to have rather obscure knowledge of the exact legal basis by virtue of which county hospitals came into existence and carry on their activities. It therefore seems very much worth the while to print a series of running excerpts from letters and legal reports dating back a decade or more, which deal with some of these points in question and to take stock thereon.

It should be illuminating to all members of the California Medical Association to peruse the series of excerpts which are presented below. On some other occasion special mention may be made of some of the statements and points brought out therein.

* * *

A 1920 Definition of the Pauper Act.—From a letter dated June 1, 1920, by Roy W. Dowds, deputy county counsel of Los Angeles, to Norman R. Martin, then superintendent of charities of Los Angeles County, the following is quoted:

"Section 1 of Act 2631 of Deering's General Laws of 1909, commonly known as the Pauper Act, provides that every county shall relieve and support all pauper persons and those incapacitated by age, disease or accident, lawfully resident therein, when such persons are not supported and relieved by their relatives or friends, or by their own means, or by state hospitals or other state or private institutions.

"The patient under discussion was incapacitated by age, disease or accident, and was not being supported or relieved by her own means (although she could have been), or by any state hospital or other state or private institution. Consequently it was your duty, as head of the Charities department of the county, to furnish her the relief needed.

"Section 5 of said Act makes it your duty, immediately upon receiving any person into the hospital, to make diligent inquiry into the ability of such person or of his relatives to bear the actual charges and expenses of the maintenance and support of such person.

"Section 6 provides, in part, as follows:

" 'In case such person shall be, or shall thereafter become the owner of property, real, personal or mixed, it shall be the duty of the district attorney (in this county the county council). . . . to cause the entire or partial support, as hereinafter provided to be fixed, of such person to be made out of such property. . . . From such funds as the district attorney (county counsel) may be able to collect, there shall be paid into the county treasury of the county, the sum per month fixed by the board of supervisors . . . quarterly in advance, for the maintenance and support of any such person or pauper; and there shall also be paid out of the proceeds of such sale or such other funds, such clothing and other supplies as may have been furnished to such person or pauper.' . . ."

* * *

Responsibility of Relatives to Pay for County Hospital Patients.—From a letter dated November 6, 1920, from the office of A. J. Hill, county counsel, by Roy W. Dowds, deputy county counsel, to Mr. Norman R. Martin, superintendent of charities of Los Angeles County, the following:

"Replying to your request for an opinion concerning the legal responsibility of persons to support their indigent relatives, permit us to advise as follows:

"Section 206 of the Civil Code reads as follows:

" 'It is the duty of the father, the mother, and the children of any poor person who is unable to maintain himself by work, to maintain such person to the extent of their ability. The promise of an adult child to pay for necessaries furnished to such parent is binding.'

"Section 6 of Act 2631, of Deering's General Laws, which act is commonly known as the Pauper Act, provides as follows:

" 'If any pauper, or indigent, poor, incompetent, or incapacitated person has kindred of the degree of husband, wife, children (other than minors), father or mother, brother or sister, grandchildren, or grandparents living within this state, of sufficient pecuniary ability, such kindred in the order above named shall support such person by paying into the county treasury in such county, the sum per month fixed on by the board of supervisors, quarterly in advance, for the maintenance and support of such pauper, indigent, poor, incompetent or incapacitated person, and shall in the order above named, also pay for the clothing and other supplies, if any, furnished to such person. And if it shall be that the relatives liable as aforesaid are not of sufficient ability wholly to maintain such poor person or pauper, but are able to contribute something they shall be required to pay a sum in proportion to their ability.'

"Section 7 of Deering's General Laws provides that upon the failure of said kindred to perform such duty, an action shall be brought against them in the name of the County. Said act also provides that it shall be the duty of the superintendent of the county hospital immediately upon receiving any person into the hospital as a public charge, to make diligent inquiries into the ability of such person, or of his relatives, to bear the actual charges and expenses of the maintenance and support of such person.

"You will observe that it is only the father, mother and children of any poor person who can be compelled to maintain such person in the first instance, but that if such poor person secures aid from the county, the Pauper Act above referred to makes it the duty of the relatives therein enumerated to reimburse the county for the sums expended by the county for the care and support of such poor person. In other words, a person cannot be compelled to maintain and support an indigent relative other than a father, mother or children, except to reimburse the county for taking care of such person. . . ."

* * *

Query Whether Attending Physicians in County Hospitals Can Charge Non-Indigent Patients.—From a letter dated March 21, 1921, to the Honorable Board of Supervisors of Los Angeles County from Mr. N. R. Martin, superintendent of charities, as follows:

"Re: Service of Attending Physicians and Surgeons, County Hospital.

"As you know, we have some 180 physicians and surgeons upon the attending staff of the County Hospital, who give of their services freely and without compensation, the actual monetary value of such services during the year amounting probably to several hundred thousand dollars in the aggregate. We use every endeavor possible to protect the hospital from imposition through admission of persons who might be able to provide care and the service of a physician or surgeon outside of a charity institution; but occasionally in the case, for example of a very serious injury, requiring immediate attention and operation, it is impossible to refrain from giving care in the County Hospital as demanded by the emergency, even though the patient is able financially to secure it in a private institution. Again, we are constantly importuned by persons financially able to go elsewhere but desiring to enter this hospital either for reasons of economy or because they have confidence in the service expected. . . . .

"The question involved is this: Is the board of supervisors willing in such extreme cases, upon the recommendation of the Superintendent of Charities, to permit attending physicians at the County Hospital to receive fees for such cases as illustrated above, all such arrangements to be made through and with the knowledge of the Superintendent of Charities?

"Personally, I feel that these attending physicians and surgeons are contributing a tremendous amount to the welfare of the community without compensation, and when they are imposed upon, as in the cases cited, they should receive compensation therefor. I would so recommend."

* * *

The reply of the Board of Supervisors to the above was as follows:

"Your report of March 30, recommending that physicians and surgeons be authorized to collect fees in certain cases, was presented to the board of supervisors on April 1, and I am directed to state that the board does not think best to adopt your recommendations."

* * *

A Suggested State Law to Give Physicians Right to Charge Non-Indigent County Hospital Patients.—From a letter dated January 11, 1923, from Mr. Norman R. Martin, superintendent of charities, to Mr. A. J. Hill, county counsel of Los Angeles, as follows:

"In June and July of 1920 we had correspondence with your office relative to finding some way of compelling patients of the County Hospital who had gotten into the hospital in some way but who were financially able to pay for their care, to pay the regular staff physicians for their services and to pay other charges similar to what would be paid in a private institution. Your file will show that this could not be done legally, and your letter of July 6, 1920, suggested that *it would be a matter of the changing of the law by the legislature of the state.* (Italics by Editor.)

"I would appreciate it if you would prepare a tentative bill, provided, of course, that you feel it would be worth while, so that I might have it to suggest to the board of supervisors the propriety of initiating such a movement."

* * *

Again on February 23, 1923, Superintendent Martin wrote to County Counsel Hill as follows:

"On January 11, 1923, I wrote you relative to finding some way of compelling patients of the County Hospital who had gotten into the hospital in some way but who were financially able to pay for their care, to pay the regular staff physicians for their services and to pay other charges similar to what would be paid in a private institution.

,"I would very much appreciate it if you could see your way clear at this time to take the steps suggested in mine of the 11th."

* * *

The reply of County Counsel Hill to Superintendent Martin, in re the above, was dated February 27, 1923, and was as follows:

"Relative to your suggestion that a plan be evolved whereby the physicians on the visiting staff of the County Hospital could be paid for their services when rendered to persons financially able to pay for their care, we beg to state that we have given the question considerable thought but are unable to suggest any way that it can be accomplished.

"The legislature could not pass a valid law which would permit the county to charge a fee and turn it over to the physicians. Furthermore, the county cannot be required to care for persons financially able to secure treatment elsewhere, and to pass a law stating that such persons, if admitted to the County Hospital, should pay for their medical attention would imply that the county had the legal right to admit them to the hospital. It seems to us that is a question to be decided between the physicians and the patients, and we would suggest that *the question be brought to an issue by one of the physicians bringing a suit to recover for his services.*" (Italics by Editor.)

* * *

Elastic Interpretation of Word "Indigent"—From a letter dated November 7, 1923, to E. T. Bishop, county counsel, care of Woodward M. Taylor, deputy county counsel, from N. N. Wood, M. D., acting superintendent of charities of Los Angeles County, the following:

"Referring to the second paragraph of your letter, may I ask for a full definition and explanation of what constitutes a charitable patient, a pauper or indigent person?

"I do not know whether you are aware that the practice of this institution is to recognize various degrees of indigency and although the hospital is restricted to the care and treatment of the indigent sick and injured of the county and to industrial accident cases occurring among county employees, the words 'indigent person' have been interpreted in practice as meaning one who is financially unable to pay privately for the necessary hospital service and attending physician's care. . . . .

"In other words, our practice is to regard as indigent persons all the patients admitted excepting the industrial accident cases, even though some of them are able to pay $2.25 per day or a fraction of this amount."

* * *

The reply of Mr. Woodward on November 9, 1923, to the above included the following:

"I am aware that it has been the practice of your institution to recognize various degrees of indigency, and the reference in paragraph 2 of my letter to you of November 5 had in mind all patients except those whose support is entirely derived from the County, i. e., all except those for whom no payments are made, either by themselves or by some others on their behalf. In the final analysis the determination of the degree of indigency, as the same may be applied to the disposition of the remains of a deceased patient, is a matter which rests, in great measure, within your discretion. . . . ."

* * *

A Specific Case of a Non-Indigent County Hospital Patient and What Happened.—From a letter dated November 19, 1923, from Dr. Trustin M. Hart, a member of the attending staff of the Los Angeles County Hospital, to Dr. N. N. Wood, superintendent of the Los Angeles County General Hospital, the following:

"Some weeks back I operated on a Mr. H—— M——, who had an old fracture of the internal semi-lunar cartilage of the right knee, which I removed. When Mr. M—— entered the hospital, he said, or at least left the impression, that he was a county employee and a regular deputy sheriff. Under that impression he was entered by the Examining Room and on my service, where I took care of him as mentioned above.

"For some reason he was investigated by the Social Service and it was found that he was only a special deputy sheriff and that he was quite wealthy. As I remember, it was reported to me he had something like $40,000 in the bank and owned some bungalow court out in Hollywood.

"At any rate he paid for his services at the usual rate at the County Hospital and while there, I believe the day before he left, in the presence of my intern, at the time Doctor Johnson, I told him that he would have to pay me for my services.

"If I remember correctly, some time back, under somewhat similar circumstances as those mentioned above, one of the attending men was allowed to collect for services rendered. If the above is true and the precedent has already been established, I would appreciate your advice and consent, if proper to charge this patient the regular fee for the operation and work that I did on him at the County Hospital.

"He is now coming to my office for treatment, which, of course, I will charge for in the regular way.

* * *

The reply of November 21, 1923, of Superintendent Wood to Doctor Hart, in re the above, was as follows:

"Replying to yours of the 19th, received yesterday, regarding the above named patient:

"For your information I am enclosing file copy of correspondence with the board and with the County Counsel in regard to this matter. So far as I know, the precedent to which you refer was the one mentioned in the second paragraph of Mr. Martin's letter in this file, dated March 30, 1921. You will note that the reply of the board of supervisors on April 2 would not permit the physician to send a bill in such a case. If you will read this file consecutively, beginning with the bottom communication and reading forward toward the top, I think you will see that the superintendent of this hospital cannot authorize or approve of a physician sending a bill to any patient, however well able to pay he may be financially, whom he treated in this hospital.

"I am perfectly willing that you should charge the patient for the services rendered him outside of the hospital. I assure you that he would not have been admitted if it had been understood that he was financially able to pay."

* * *

Opinion of the Attorney General of California and His Recommendation.—From a letter dated December 22, 1923, from B. H. Pendelton of Oakland, a member of the Board of Charities and Corrections of the State of California, to Dr. Neal N. Wood, superintendent, Los Angeles County Hospital, the following quotation:

"In accordance with your suggestion, I am sending herewith a copy of the opinion handed down by the attorney general on the subject of pay patients in county hospital of a certain county. I reiterate what I said to you—that we are loath to see this matter adjudicated in the courts because we are afraid that the decision might be against us. We know of instances where direct and indirect advantages have flowed to the county by having pay patients admitted to the general county hospital. These advantages are not only those that pertain to the finances of the institution but also to its standards of efficiency. The advantages to the citizens of limited means are too obvious to need mention. There should never be any question of the county hospital competing with private hospitals. This objection is obviated in Fresno County by a careful budgeting of the patient's ability to pay as shown in a copy of their admission rules enclosed herewith. . . ."

* * *

The opinion of the attorney general of California, U. S. Webb, Esq., to the State Board of Charities and Corrections, and above referred to, was of date of August 13, 1919, and is as follows:

"I have yours of the 12th inst., relative to 'pay patients in county hospitals,' and, in reply, permit me to say that *this is a question involved in some doubt, and that doubt can be removed only by judicial decision, and, so far as we are aware, the question has not yet been presented to a court.* (Italics by Editor.)

"However, this office heretofore had occasion to express its views upon the subject, and, accordingly, I am enclosing you herewith a copy of such expression as found in a communication of April 19, 1919, addressed to the district attorney of Amador County."

* * *

A very interesting survey of legislation bearing on county hospitals and their scope and activities is given in the letter dated April 19, 1919, which was referred to by Attorney General Webb of the State of California, as above noted.

An Amador County Situation.—This letter of April 19, 1919, was to Hon. T. G. Negrich, District Attorney, Amador County, Jackson, California, and was signed by U. S. Webb, Attorney General, by Frank L. Guerrna, deputy. It is as follows:

"I have before me for reply thereto your recent request to be advised whether 'pay' patients may legally be admitted to county hospitals. . . .

"Authority for the establishment and maintenance of a County Hospital by a county board of supervisors is found in Subdivision 7, Section 4041, of the Political Code, also in Section 4223 of that code. In the section first named the power is expressed as follows:

" 'To construct or lease, build or rebuild, furnish or refurnish or repair hospitals . . . and such other public buildings as may be necessary to carry out the work of the county government, and to provide all necessary officers, employees, attendants and supplies for the proper maintenance of the same; provided, that a suitable graduate or graduates in medicine shall be appointed to attend to the indigent sick or dependent poor, or to the patients in such hospitals and almshouses; provided, further, that the board shall not let the care, maintenance, or attendance of such indigent sick or dependent poor by contract to any person.'

"The provision quoted was codified as Subdivision 5 of Section 4041 in 1907, and originally appeared in substantially the same form in the County Government Act of 1883. Prior to 1883 we find that various statutes were enacted, some special and others general in character, making provision for the relief of the indigent sick in this state. An act relative to the treatment and care of the indigent sick of the county of Amador was approved March 3, 1866 (Statutes 1865-6, p. 160).

"In Subdivision 29a, Section 4041 of the Political Code, county boards of supervisors are empowered 'to provide for the care and maintenance of the indigent sick . . . of the county.' This provision also dates back to the County Government Act of 1883.

"In 1901 (Statutes 1901, p. 636) there was enacted a statute making it the duty of every county to 'relieve and support all pauper, incompetent, poor, indigent persons and those incapacitated by age, disease, or accident, lawfully resident therein, when such persons are not supported and relieved by their relatives or friends, or by their own means, or by state hospitals or other state or private institutions.'

It will be observed from other provisions of the Statute of 1901 that the legislature contemplated that indigent sick of a county, coming within the classification of those persons named in Section 1, should be cared for in county hospitals.

"There is much in the provision quoted from Subdivision 7 of Section 4041 of the Political Code which indicated *that it was the intention of the legislature to thereby provide for the care and relief of indigent sick only, and that such intention theretofore existed seems apparent under consideration of the statutes out of which the provision in Subdivision 7 of Section 4041 has developed.* (Italics by Editor.)

"Section 4223 of the Political Code was originally enacted in 1907, and thereby 'the board of supervisors in each county may establish and maintain a County Hospital, prescribe the rules for the government and management thereof, and appoint a county physician and the necessary officers and employees thereof, who shall hold office during the pleasure of the board.'

"It is to be noted that Section 4223, unlike Section 4041 (7), makes no reference to indigents, and it is barely possible that by its enactment it was intended to enlarge upon the powers conferred upon boards of supervisors in Section 4041.

"On the other hand, it may be that Section 4223 should be regarded merely as a further expression of the powers granted to such boards in Subdivision 7 of Section 4041, for it is by no means uncommon to find statutes specially granting to boards of supervisors powers which are within the enumeration of their general permanent powers contained in Section 4041. *And, further, if we should treat Section 4223 as unconditionally authorizing a county board of supervisors to establish and maintain a County Hospital for the treatment and care of so-called pay patients, as well as indigent sick, we would be assuming the existence in such board of a power which has not been judicially declared to be vested in it so far as we can discover.* (Italics by Editor.)

"While we are of the belief that the legislature has so far only contemplated provision for the care and relief of the indigent sick in the various counties of the state, we are not unmindful that in a great many of the counties, especially in the smaller counties of the state, conditions have been and still are such as to require that county hospitals be open to pay patients, and, further, that such patients are and have been admitted to such hospitals.

"In considering the question which you present we do not feel that we can shut our eyes to the long continued and unchallenged practice in those counties with reference to the admission of pay patients to the county hospitals. Indeed we have no doubt but that in some counties there is no hospital other than the county institution. Such is the situation in Amador County, according to your statement.

"We agree with you that a County Hospital should be given to relief during epidemics and unusual conditions, and it is unlikely that our courts would otherwise hold. If, under those circumstances, it would be said that county hospitals should not be closed to pay patients, it should also be said that their admission would be equally justified in a case where there is none other than the County Hospital within a county, assuming that an adequate charge is made and collected for the service furnished by the county, and that the admission of such patients does not prevent the county from properly discharging its statutory duty to care for its indigent sick, which is of primary importance.

"We are therefore of the opinion, in view of what has been noted, that it is not unlawful to admit pay patients to the County Hospital in Amador County, that being the only hospital within the county, if the county is adequately compensated for all that it provides, and if, as has also been said, the county does not thereby render itself unable to properly care for the indigent residents. Any other conclusion would seem to ignore such strong reasons of public policy that we are disinclined to express a different view. If, however, you are not likewise impressed by the considerations which are the basis of this opinion, *we would suggest that the question be presented to the court in an appropriate proceeding brought for that purpose, for nothing short of an adjudication can be decisive.*" (Italics by Editor.)

* * *

A Report From San Bernardino County.—From a newspaper clipping dated October 12, 1927, in the file, taken from the Los Angeles *Times,* and bearing on some similar problems in San Bernardino County, the following is taken:

"Redlands, Oct. 11.—That patients have been going to the County Hospital and getting free operations and free medical attention when perfectly able to pay for it and that the taxpayers of the county have paid, instead, was the statement presented before the board of supervisors of the county by a medical society committee, which may result in a change of policy at the hospital.

"The rule has been that only paupers can be admitted to the hospital, but it is said to be flagrantly abused and people are being admitted who are perfectly able to pay. The supervisors accepted a recommendation from the medical society that a committee of eight be appointed to study the entire situation and made a recommendation, although it was apparent that the supervisors will not continue to operate the hospital on the present basis.

"Of this committee two are Redlands physicians. The committee is made up as follows: Dr. G. G. Moseley, president of the society of Redlands; Dr. C. L. Curtiss, Redlands; Dr. C. G. Hilliard, Redlands; Dr. F. M. Gardner, Dr. R. S. Gibbs, Dr. A. C. Ambler of San Bernardino; Dr. F. H. Pritchard, Dr. Walter F. Pritchard, Dr. C. F. Whitmer of Colton and Dr. F. F. Abbott of Ontario."

* * *

A Suggested Resolution in Los Angeles County.—A letter from Dr. N. N. Wood, dated July 21, 1927, to the Honorable Board of Supervisors of Los Angeles County is as follows:

"I have the honor to invite your attention to the fact that this hospital is greatly overcrowded with very sick patients who demand very able, thorough and constant medical attention for their proper care (see the attached Bulletin No. 804 of this hospital).

"It is sometimes really difficult to secure the services of the necessary physicians for this work for nothing since so much is demanded of them and often so little is offered in return especially to those who do not operate and who do not get the thrill out of their work and earn their incomes in a few hours as do those who do operate.

"Your Honorable Board has in the past many times recognized by resolution the indebtedness of the county to the self-sacrificing devotion of the medical and surgical staffs of this hospital in their work of treating, without charge, the indigent patients therein. The actual cash value of this service runs into hundreds of thousands of dollars a year.

"But it sometimes happens that patients treated by these physicians at this hospital are not indigent; sometimes in an emergency when a recently injured, financially able patient is brought to the hospital without previous arrangement and because of humanitarian conditions should not be turned away without relief; sometimes by mistake or design when some patient who is well able to pay the full cost of his hospital care and the doctors' fees, slips in notwithstanding the safeguards intended to prevent this.

"Such patients deprive those who are really indigent of beds and service, and under the existing ruling of your Honorable Board the attending physicians who are asked to serve these financially able patients are asked not to accept anything from them for services rendered at this hospital.

"I believe, sincerely, that it would increase the number of beds available for the indigent in this hospital, that it would increase the efficiency and improve the morale of the faithful attending physicians and surgeons who have done and are doing so much for the hospital, and that it would discourage the occasional patients who do not hesitate to defraud the county, physicians and private hospitals, and the really indigent when they think they can secure something for nothing by worming their way into the hospital, if your Honorable Board would rescind its former action in regard to this matter and would adopt resolutions similar to the following:

"Resolved, That the Los Angeles General Hospital is intended to provide modern hospital care for the acutely ill requiring it who are indigent as contemplated will be done by county hospitals established under the Pauper Act, and

"Resolved, further, that when in emergency or otherwise, patients in the General Hospital who are not indigent receive professional services from the unpaid staff of attending physicians and surgeons, the latter may charge such patients for such services and may proceed to collect for such services as they might had the services in question been rendered elsewhere; provided, that before any bills are rendered in such instances, the same shall have been submitted in itemized form to the superintendent of the hospital for his information and approval, and it is further

"Resolved, That the physicians and surgeons of such unpaid attending staffs may submit bills to the county for their services to injured county employees entitled to the benefits of the Workmen's Compensation Laws, since these employees are not indigent, even though treated in the Los Angeles General Hospital."

* * *

Note: The members of the Board of Supervisors could not see their way clear to pass such a resolution. Accordingly the letter was filed.

* * *

A Los Angeles County General Hospital Bulletin.—Bulletin No. 920, dated July 27, 1928, and superseding Bulletin No. 876 from the office of the superintendent of the Los Angeles County General Hospital, deals with an ordinance passed by the Board of Supervisors of Los Angeles County, being known as Ordinance 929, N. S. Said ordinance provides a code of rules prescribing duties and systems of office and institutional management, etc.

From Rule 61 reference to Ordinance 1535:

"No person shall be considered to be a pauper, or poor or indigent person, so as to be entitled to county aid, who shall have an income in excess of the regular charity budget for such a case, as approved by the board of supervisors. . . .

"No person shall be construed to be a pauper or a poor or indigent person, so as to be entitled to county aid, who shall own an interest in real property, which real property shall have a county assessed valuation of twenty-five hundred dollars or more.

"No person shall be entitled to aid, other than emergency aid, who shall own an interest in property or a county assessed valuation of two hundred fifty dollars or more, unless the applicant, by proper written instrument, creates a lien upon the interest of such applicant as security for all aid advanced by Los Angeles County, which lien shall be enforced by the county of Los Angeles, or conveys by deed property to Los Angeles County, if the title thereto be clear and the acceptance of said property will not require the county to assume any pecuniary obligation to preserve such title. . . .

"No person shall be considered to be a pauper or poor or indigent person, so as to be entitled to county aid, who shall own personal property consisting of cash or negotiable securities, except in cases of persons incapacitated due to old age. Such cases shall be allowed to retain no more than one hundred fifty dollars for burial purposes, provided they have no insurance or other means for burial except by the county. . . .

"If any incapacitated person shall have sufficient property or income so that such person is not eligible for pecuniary aid from the county, but shall be unable to care for himself because of his infirmity, and shall not be otherwise relieved or able to obtain relief, such person may be given medical attention or other proper relief or assisted in obtaining such relief, upon payment of the county's necessary charges. . . ."

MEDICO-LEGAL

PROPOSED LAWS OF A PUBLIC HEALTH NATURE

Submitted to the Forty-Ninth California Legislature, which is now in Session.

The present legislature—California's forty-ninth—during its first session in January of this year saw practically two thousand bills submitted.

The California Medical Association Committee on Public Policy and Legislation, of which President-elect Junius B. Harris of Sacramento is chairman, has submitted to the Council of the California Medical Association the following list of proposed laws, all of which seem to trench somewhat on the domains of the public health and of the medical profession.

County society committees on public policy and legislation whose members desire to secure copies of certain of these bills can do so by addressing senators or assemblymen whom they know (see list of senators and assemblymen on page 224), or by addressing the Secretary of the Senate or the Chief Clerk of the Assembly, The Capitol, Sacramento, and making request therefor.

* * *

Senate Bills

Senate Bill No. 131:

An act to amend Section 651d of the Civil Code relating to the conferring of academic or professional degrees.

Senate Bill No. 244:

An act to repeal Section 3637 of the School Code, relating to the admission of deaf children to schools established for the deaf. (Referred to Committee on Education.)

Senate Bill No. 175:

An act to define medical and hospital service companies and agents; to provide for the regulation, supervision and licensing thereof; to create a fund therefor; to create the office of commissioner of medical and hospital service companies; to provide for the enforcement of said act and penalties for the violation thereof; and to make an appropriation.

Senate Bill No. 409:

An act to amend Sections 1, 9 and 13 of Chapter 426, Statutes of 1915, entitled "An act to insure the better education of dental surgeons and to regulate the practice of dentistry in the State of California, providing penalties for the violation hereof," approved May 21, 1915, as amended, relating to license fees and the issuance, suspension and revocation of licenses.

Senate Bill No. 584:

An act to amend Sections 2, 4 and 6, of the "Act concerning cosmetology." (Referred to the Committee on Governmental Efficiency.)

Senate Bill No. 43:

An act to amend Section 3, of Chapter 529, Statutes of 1929, entitled "An act to provide for needy blind persons," not inmates of any institution supported in whole or in part by the state or any of its political subdivisions, making appropriations therefor and prescribing penalties for the violation of the provisions of the act," approved May 28, relating to who may receive benefits of the act. (Referred to the Committee on Public Charities and Corrections.)

Senate Bill No. 70:

An act to amend Sections 9, and 19 of Chapter 186, Statutes of 1907, entitled "An act for the prevention of the manufacture, sale or transportation of adulterated mislabeled or misbranded drugs, regulating the traffic in drugs and providing penalties for violation thereof," approved March 11, 1907, as amended, relating to the adulteration of drugs.

Senate Bill No. 121:

An act regulating the wrapping and marking of bread or pastry and fixing penalties for violation of the provisions thereof.

Senate Bill No. 194:

An act to amend Section 6 of the "Narcotic Rehabilitation Act," approved April 9, 1927, as amended, prescribing a penalty for violation of parole.

Senate Bill No. 195:

An act to amend Section 16a of the "Narcotic Rehabilitation Act," approved April 9, 1927, as amended, relating to escapes from a state narcotic hospital.

Senate Bill No. 196:

An act to add new sections numbered 5b and 5c to and to amend Section 10 of the "Narcotic Rehabilitation Act," relating to commitment, transfer, discharge or return of patients to or from the State Narcotic Hospital.

Senate Bill No. 282:

An act to regulate the construction and maintenance of auto camps in unincorporated areas; to provide for the inspection and supervision of the same; to provide for the abatement thereof in certain cases; to provide penalties for the violation of the provisions thereof and to repeal Chapter 615, Statutes of 1929, entitled "An act to regulate the construction and maintenance of auto camps in unincorporated areas, to provide for the inspection and supervision of same and to provide penalties for the violation of the provisions thereof," approved May 31, 1929.

Senate Bill No. 318:

An act to amend Sections 6a and 16 to repeal Sections 7, 8, 13, and 14 of the "Narcotic Rehabilitation Act," relating to government of the State Narcotic Hospital, commitments, discharge and parole of inmates; prohibiting escapes and prescribing penalties.

Senate Bill No. 358:

An act to amend Section 2 of Chapter 260, Statutes of 1929, entitled "An act to regulate the sale, possession, distribution and use of habit-forming narcotic and other dangerous drugs and substances and providing penalties for the violation thereof," approved May 4, 1929, relating to the prescription of narcotics.

Senate Bill No. 359:

An act to amend Sections 1, 2, 3, 5, and 14 of Chapter 216, Statutes of 1929, entitled "An act to regulate the sale, possession, distribution and use of habit-forming narcotics and other dangerous drugs and substances, and providing penalties for the violation thereof," approved May 4, 1929, relating to narcotic drugs.

Senate Bill No. 403:

An act to provide for the inspection and certification of liquid eggs, frozen eggs and dried eggs, and any other egg products imported into the State of California from without the United States for the purpose of human consumption; to prescribe certain

CALIFORNIA LEGISLATURE—FORTY-NINTH SESSION ROSTER

For the convenience of members of the California Medical Association, the rosters of the State Senate and State Assembly of the Forty-Ninth California Legislature, which is now in session at Sacramento, are here given:

MEMBERS OF CALIFORNIA SENATE—FORTY-NINTH SESSION, 1931

(Address Mail, c/o Senate Secretary, State Capitol, Sacramento)

Name	Party	District	County	Home Address
Allen, James M.	D.-R.	2nd	Siskiyou	Yreka
Baker, C. C.	R.	17th	Monterey	Salinas
Breed, Arthur H.	R.	16th	Alameda	Latham Square Bldg., Oakland
Bush, David F.	R.	22nd	Stanislaus	Oakdale
Carter, Henry E.	R.	31st	Los Angeles	1040 Island Ave., Wilmington
Cassidy, Bert A.	R.	3rd	Placer	Auburn
Christian, E. H.	R.	13th	Alameda	1097 D St., Hayward
Cleveland, George C.	R.	11th	Santa Cruz	R. F. D. 1, Watsonville
Crittenden, B. B.	R.	20th	San Joaquin	Stockton
Deuel, Charles H.	D.-R.	6th	Butte	Chico
Duval, Walter H.	R.	25th	Ventura	Santa Paula
Edwards, Nelson T.	R.	39th	Orange	350 S. Glassell St., Orange
Evans, H. J.	R.	35th	Los Angeles	234 N. Canyon Blvd., Monrovia, P. O. Box 272
Fellom, Roy	R.	14th	San Francisco	Call Bldg., San Francisco
Harper, William E.	R.	40th	San Diego	3317 First St., San Diego
Hays, Ray W.	R.	30th	Fresno	Brix Bldg., Fresno
Ingels, R. R.	R.	4th	Mendocino	Ukiah, R. F. D. 2
Inman, J. M.	R.	7th	Sacramento	McLean Bldg., Sacramento
Jones, Herbert C.	R.	28th	Santa Clara	Auzerias Bldg., San Jose
Maloney, Thomas A.	R.	23rd	San Francisco	341 Connecticut St.
McCormack, Thomas	R.	5th	Solano	Rio Vista
McKinley, J. W.	R.	38th	Los Angeles	621 Security Bldg., Los Angeles
Mixter, Frank M.	R.	32nd	Tulare	Exeter
Moran, John L.	R.	8th	Tehama	Corning
Nelson, H. C.	R.	1st	Humboldt	1819 H St., Eureka
Pedrotti, J. L.	R.	29th	Los Angeles	225 Wilcox Bldg., Los Angeles
Rich, W. P.	R.	10th	Yuba	Marysville
Riley, Joe	R.	28th	Inyo	Bishop
Rochester, Geo. W.	R.	37th	Los Angeles	921 Merchants National Bank Bldg., Los Angeles
Schottky, Andrew R.	R.	24th	Merced	Merced
Sharkey, Will R.	R.	9th	Contra Costa	Martinez
Slater, Herbert W.	D -R.	8th	Sonoma	Santa Rosa
Swing, Ralph E.	R.	30th	San Bernardino	Garner Bldg., San Bernardino
Tubbs, Tallant	R.	19th	San Francisco	200 Bush St., San Francisco
Wagy, J. I.	R.-D.	32nd	Kern	Bakersfield
Williams, Dan E.	R.	26th	Tuolumne	Jacksonville, via Chinese Camp
Young, Sanborn	R.	27th	Santa Clara	Los Gatos

powers and duties of the State Department of Public Health with respect thereto, and to provide penalties for violation of the provisions of this act.

Senate Bill No. 408:

An act to amend Section 347½ of the Penal Code, relating to the sale and use of drugs.

Senate Bill No. 463:

An act to amend Section 9 of the State Medical Practice Act, approved June 2, 1913, as amended, relating to applications for certification under said act.

Senate Bill No. 485:

An act to Amend Section 2 of Chapter 319, Statutes of 1913, entitled "An act to promote the better education of nurses and the better care of the sick in the State of California, to provide for and regulate the examination and registration of graduate nurses, and to provide for the issuance of certificates of registration as registered nurses to qualified applicants by the state board of health, and to repeal an act approved March 20, 1905, entitled "An act to promote the better education for the practice of nursing the sick in the State of California, to provide for the

MEMBERS OF CALIFORNIA ASSEMBLY, FORTY-NINTH SESSION, 1931

(Address Mail, c/o Assembly Clerk, State Capitol, Sacramento)

Name	Occupation	Party	District	Home Address	County
Arnold, Emery J.	Mining, Real Estate	R.	63	918 S. Beacon St., Los Angeles	Los Angeles
Badham, Willard E.	Merchant	R.	59	1183 W. 30th St., Los Angeles	Los Angeles
Baum, Willis M.	Real Estate Broker, Appraiser	R.	60	416 S. Spring St., Los Angeles	Los Angeles
Biggar, George M.	Farmer, Merchant	R.	6	Covelo	Mendocino
Bishop, Roy	Traffic Manager	R.	35	1601 High St., Alameda	Alameda
Bliss, George R.	Farmer	R.	49	Carpinteria	Santa Barbara
Bonelli, William G.	Attorney-at-Law	R.	54	2060 Escarpa Dr., Los Angeles	Los Angeles
Bowers, George B.	Writer	R.	78	3435 Texas St., San Diego	San Diego
Brock, Archibald E.	Building and Loan	R.	74	223 W. Olive Ave., Redlands	San Bernardino
Clark, C. Todd	Farmer	D.-R.	46	Clovis	Fresno
Cloudman, Harold C.	Mining Engineer, Insurance	R.	40	2236 Grant St., Berkeley	Alameda
Clowdsley, F. C.	Lawyer	D.-R.	15	346 W. Acacia St., Stockton	San Joaquin
Cobb, Lawrence	Attorney-at-Law	R.	58	Citizens National Bank Bldg., Los Angeles	Los Angeles
Craig, Edward	Mechanical Engineer	R.	75	111 W. Cedar St., Brea	Orange
Crist, Frank Lee	Attorney-at-Law	R.	21	150 Pine St., Palo Alto	Santa Clara
Cronin, Melvyn I.	Attorney-at-Law	D.-R.	27	1251 11th Ave., San Francisco	San Francisco
Crowley, Ernest C.	Attorney-at-Law	D.-R.	10	Suisun	Solano
Dempster, Charles W.	Attorney-at-Law	R.	57	1660 West Boulevard, Los Angeles	Los Angeles
Dillinger, H. E.	Attorney, Merchant	D.-R.	16	618 Main St., Placerville	El Dorado
Easley, Robert P.	Reclamation Engineer	R.	13	705 E St., Antioch	Contra Costa
Emmett, Dan W.	Farmer	R.	50	R. F. D. 1, Santa Paula	Ventura
Feeley, Walter W.	Insurance	R.	38	1502 Alice St., Oakland	Alameda
Feigenbaum, B. J.	Attorney-at-Law	R.	31	Kohl Bldg., San Francisco	San Francisco
Fisher, Charles W.	Attorney-at-Law	R.	41	189 Florence Ave., Oakland	Alameda
Fisher, Robert F.	Farmer	R.	1	Carlotta	Humboldt
Frazier, John E.	Auto Dealer and Farmer	R.	5	Gridley	Butte
Gillett, George F.	Advertising	R.	67	244 E. 65th St., Los Angeles	Los Angeles
Gilmore, Joseph P.	Florist	R.-D.	23	442 Excelsior Ave., San Francisco	San Francisco
Golden, Milton M.	Attorney-at-Law	R.	55	7006 Hollywood Blvd., Los Angeles	Los Angeles
Gordon, Frank L.	Farmer	R.	8	Suisun	Napa
Greene, Sam M.	Banker	R.	65	509 E. Nutwood St., Inglewood	Los Angeles
Hawes, Fred C.	Hotel Proprietor	R.-D.	22	252 6th St., San Francisco	San Francisco
Hayes, J. P.	Glass and Glazing	R.	30	1945 Sutter St., San Francisco	San Francisco
Head, Ed L.	Real Estate Broker	R.	79	3886 Van Dyke Ave., San Diego	San Diego
Hill, Ben A.	Attorney-at-Law	R.	72	1175 W. 10th St., San Pedro	Los Angeles
Hoffman, William W.	Attorney-at-Law	R.	36	5333 El Camile Ave., Oakland	Alameda
Honnold, Arthur R.	Attorney-at-Law	R.	80	424 7th Ave., Escondido	San Diego
Hornblower, William B.	Attorney-at-Law	R.-D.	25	1530 Guerrero St., San Francisco	San Francisco
Houser, Frederick F.	Attorney-at-Law	R.	53	1821 S. 5th St., Alhambra	Los Angeles
Israel, Frank S.	Rancher	R.	14	Linden	San Joaquin
Jespersen, Chris N.	Farmer	R.-D.	43	Paso Robles	San Luis Obispo
Jewett, Augustus F.	Farmer	R.	47	P. O. Box 125, Hanford	Kings
Jones, Isaac	Attorney-at-Law	R.	73	724 E. E St., Ontario	San Bernardino
Jost, William P.	Rancher	R.	34	R. F. D. 3, Box 150, Hayward	Alameda
Kellogg, Sarah E.	Housewife	R.	51	6476 Van Nuys Blvd., Van Nuys	Los Angeles
Kline, Chester M.	Publisher	R.	76	San Jacinto	Riverside
Levey, Edgar C.	Attorney-at-Law	R.-D.	28	166 19th Ave., San Francisco	San Francisco
Little, Walter J.	Attorney-at-Law	R.	56	906 9th St., Santa Monica	Los Angeles
Lyons, Harry	Attorney-at-Law	R.	64	122 N. Rampart Blvd., Los Angeles	Los Angeles
McDaniel, Edwin A.	Farmer	D.-R.	4	Los Molinos	Tehama
McGuinness, Henry	Attorney-at-Law	D.-R.	2	Dunsmuir, new Post Office Bldg.	Siskiyou
Meeker, M. S.	Farmer	R.-D.	44	Kerman	Fresno
Miller, Eleanor	Teacher, Expression	R.	52	251 S. Oakland Ave., Pasadena	Los Angeles
Miller, James A.	Attorney-at-Law	R.-D.	32	440 Eddy St., San Francisco	San Francisco
Morrison, Harry F.	Real Estate	R.	29	159 Dolores St., San Francisco	San Francisco
Nielsen, Roy J.	Insurance	R.-D.	11	Bank of America Bldg., Sacramento	Sacramento
Oliva, Charles A.	Salesman	R.-D.	33	1944 Powell St., San Francisco	San Francisco
Parkman, Harry L.	Wholesaling and Distributing	R.-D.	19	934 Rosewood Dr., San Mateo	San Mateo
Patterson, Robert Lincoln	Insurance	R.-D.	48	Padre Hotel Bldg., Bakersfield	Kern
Powers, Lucius, Jr.	Attorney-at-Law	R.-D.	45	480 N. Van Ness Ave., Fresno	Fresno
Quigley, James L.	Instructor	R.-D.	24	45 Broad St., San Francisco	San Francisco
Reid, James K.	Lumber	R.	70	380 Wisconsin Ave., Long Beach	Los Angeles
Reindollar, Charles F.	Attorney	R.-D.	9	378 Forbes Ave., San Rafael	Marin
Riley, Harry B.	Lithographing	R.	71	1551 Elm Ave., Long Beach	Los Angeles
Roberts, Frederick M.	Publisher	R.	62	1413 Central Ave., Los Angeles	Los Angeles
Robinson, C. Ray	Attorney-at-Law	R.-D.	17	Merced	Merced
Roland, Eugene W.	Attorney-at-Law	R.	37	451 Elwood Ave., Oakland	Alameda
Scudder, Hubert B.	Insurance	R.	7	506 S. Main St., Sebastopol	Sonoma
Seawell, Jerrold L.	Insurance	R.-D.	3	303 Mariposa Ave., Roseville	Placer
Sewell, Harry F.	Attorney-at-Law	R.	69	627 Terrace Place, Whittier	Los Angeles
Snyder, Bert B.	Attorney-at-Law	R.	42	175 High St., Santa Cruz	Santa Cruz
Stockwell, James E.	Publisher and Accountant	R.	66	406 W. 41st Pl., Los Angeles	Los Angeles
Wakefield, Clarence N.	Florist	R.	61	2806 N. Broadway, Los Angeles	Los Angeles
West, Percy G.	Lawyer	R.-D.	12	McLean Bldg., Sacramento	Sacramento
Wilher, George H.	Retired	R.	68	103 S. 4th St., Montebello	Los Angeles
Williamson, Ray	Attorney-at-Law	R.-D.	26	756 Page St., San Francisco	San Francisco
Witter, Myron D.	Publisher	R.-D.	77	235 H St., Brawley	Imperial
Wixson, Clifford	Merchant	R.	39	3261 Hollis St., Oakland	Alameda
Wright, T. M.	Printer	R.	20	240 S. 13th St., San Jose	Santa Clara
Zion, E. H.	Attorney-at-Law	R.	18	Modesto Bank Bldg., Modesto	Stanislaus

issuance of certificates of registration as a registered nurse, to qualified applicants of the board of regents of the University of California, and to provide penalties for violation thereof" relating to examination fees.

Senate Bill No. 486:

An act to protect the public from misrepresentation, imposition and fraud of advertising "doctors" by regulating the use of printing, publishing, or any form of advertising of the words and letters and abbreviations and titles of "doctor," "Dr.," "physician," "physician and surgeon," "surgeon," "M. D.," "D. C.," "D. O.," "N. D.," "Opt. D.," "D. S. C.," "Ph. C.," "Ph. D.," or any like title, abbreviation or appellation indicating that the user holds himself out as possessing knowledge, skill or power to treat any physical or mental ailment of human beings, imposing penalties for the violation thereof, and repealing all acts and parts of acts in conflict herewith.

Senate Bill No. 587:

An act to amend Section 2 of Chapter 233, Statutes of 1903, entitled "An act imposing a license tax upon itinerant vendors of drugs, nostrums, ointments, or appliances sold for the cure of disease, injuries or deformities," approved March 20, 1903, as amended, relating to license fees.

Senate Bill No. 634:

An act to amend Sections 1, 2, 3, and 4 of an act entitled "An act to regulate the examination of applicants for license and the practice of those licensed to treat diseases, injuries, deformities, or other physical or mental conditions of human beings; to establish a board of medical examiners, to provide for their appointment and prescribe their powers and duties, and to repeal an act entitled 'An act for the regulation of the practice of medicine and surgery, osteopathy, and other systems or modes of treatment of sick or afflicted in the State of California, and for the appointment of a board of medical examiners in the matter of said regulations,' approved May 14, 1907, and acts amendatory thereof, and also to repeal all other acts and parts of acts in conflict with this act," approved June 2, 1913, as amended, relating to creation of a state medical examiner.

Senate Bill No. 635:

An act to amend Sections 1, 2, 3, and 4 of an act entitled "An act to regulate the examination of applicants for license and the practice of those licensed to treat diseases, injuries, deformities, or other physical or mental conditions of human beings; to establish a board of medical examiners, to provide for their appointment and prescribe their powers and duties, and to repeal an act entitled 'An act for the regulation of the practice of medicine and surgery, osteopathy, and other systems or modes of treatment of sick or afflicted, in the State of California, and for the appointment of a board of medical examiners, in the matter of said regulations,' approved May 14, 1907, and acts amendatory thereof, and also to repeal all other acts and parts of acts in conflict with this act," approved June 2, 1913, as amended, relating to the office of state medical examiner.

Senate Bill No. 682:

An act to amend Section 374b of the Penal Code and to add a new section thereto to be numbered Section 375, relating to the deposit of nauseous, offensive or injurious substances in places of public assemblage or the manufacture thereof with the intent so to deposit.

Senate Bill No. 730:

An act to regulate the examination of applicants for license and the practice of those licensed to treat diseases or other physical or mental conditions of human beings by Christian healing and imposition of hands; to establish a board of examiners, to provide for their expenditures, and prescribe their powers and duties. (Referred to Committee on Public Health and Quarantine.)

* * *

Assembly Bills

Assembly Bill No. 72:

An act to amend Section 1607 of the Penal Code, relating to the medical treatment of prisoners. (Referred to Committee on Crime Problems.)

Assembly Bill No. 1147:

An act to provide for a state narcotic hospital for the confinement, care, cure, and rehabilitation of drug addicts; to provide for the control, management, government and maintenance thereof; to provide for commitment and admission of drug addicts thereto; to prescribe penalties for unlawfully or improperly contriving to having persons not addicts committed thereto, for procuring the escape, or advising in the escape of inmates, or concealing inmates thereof; to repeal Chapter 89, Statutes of 1927, as amended, and all other acts inconsistent or in conflict herewith; to provide an appropriation for such hospital; to prescribe a short title for this act.

Assembly Bill No. 1148:

An act to regulate and control the production, manufacture, sale, purchase, use, consumption, transportation, importation and possession of narcotics; to provide penalties for the violation of the provisions of this act; to create a narcotic control board; to provide for the appointment, tenure, qualifications and salary of members of said board, to define the powers and duties of such board, to vest in said board complete and extensive control over narcotics; and to delegate to such board powers to establish rules and regulations with respect to the enforcement of this act; to provide an appropriation; to prescribe a short title for this act; and to repeal all laws and acts in conflict herewith.

Assembly Bill No. 1281:

An act regulating the practice of naturopathy in the State of California. (Referred to Committee on Governmental Efficiency and Economy.)

Assembly Bill No. 238:

An act to amend Section 11 of an act entitled "An act to provide an institution for the confinement, cure, care, and rehabilitation of drug addicts to be known as the State Narcotic Hospital; to provide for the government and maintenance thereof; to provide for admission and commitment of such addicts, and to prescribe penalties for unlawfully or improperly contriving to have persons adjudged drug addicts under this act; to provide penalties for procuring the escape, or aiding or advising in the escape of inmates, or concealing inmates thereof," approved April 9, 1927, relating to payment of expenses of persons committed to State Narcotic Hospital.

Assembly Bill No. 239:

An act to amend Section 31 of an act entitled "An act to be known as the 'Pacific Colony Act,' to establish an institution for the care, confinement and instruction of feeble-minded and epileptic persons, to provide for government and maintenance thereof, and for the study of mental deficiency and related problems, to provide for admission and commitment to such institution and to prescribe penalty for unlawfully or improperly contriving to have persons adjudged feeble-minded under this act, to provide for the sterilization of inmates of such institution, to prescribe penalties for procuring the escape or aiding or advising in the escape of inmates, or concealing inmates thereof, to provide a contingent fund for the use of such institution and to make an appropriation therefor," approved June 1, 1917, as amended, requiring counties to pay the state for the proper part of each month.

Assembly Bill No. 240:

An act to amend Section 2167b of the Political Code, relating to the residence and cost of maintenance of psychopathic parole patients.

Assembly Bill No. 897:

An act to provide for the establishment and maintenance of an institution for the confinement of the criminally insane and for the commitment of the criminally insane to such an institution. (Referred to Committee on Hospitals and Asylums.)

Assembly Bill No. 452:

An act to amend Section 9 of the "Workmen's Compensation, Insurance and Safety Act of 1917," approved May 23, 1917, as amended, relating to compensation.

Assembly Bill No. 627:

An act to amend Section 46 of the "Workmen's Compensation, Insurance and Safety Act," approved May 26, 1913, as amended, relating to insurance against liability for compensation by the state and by political subdivisions, districts, state agencies and public and quasi-public corporations.

Assembly Bill No. 675:

An act requiring licensed contractors to report the name and address of the insurance carrier carrying workmen's compensation on their employees to the department of professional and vocational standards and send a copy of such report to the insurance carrier, requiring the said insurance carrier to thereafter report to the same department any cancellation or lapse of such policy of workmen's compensation insurance, and providing penalties for violation of the provisions thereof. (Referred to Committee on Insurance.)

Assembly Bill No. 917:

An act to provide for the sterilization of defectives in state institutions.

Assembly Bill No. 918:

An act to provide for the voluntary sterilization of persons not in state institutions. (Referred to Committee on Judiciary.)

Assembly Bill No. 1576:

An act to amend Section 9 of the "Workmen's Compensation, Insurance and Safety Act of 1917," approved May 23, 1917, as amended by making further provisions regarding previous disability of an injured employee and by changing the procedure for the enforcement of liability to the subsequent injuries fund. (Referred to Committee on Judiciary.)

Assembly Bill No. 330:

An act to amend Section 15 of Chapter 216, Statutes of 1929, entitled "An act to regulate the sale, possession, distribution and use of habit-forming narcotic and other dangerous drugs and substances, and providing penalties for the violation thereof," approved May 4, 1929, relating to narcotic drugs.

Assembly Bill No. 331:

An act to amend Section 347½ of the Penal Code, relative to the sale and use of poisons and providing a penalty for the violation thereof.

Assembly Bill No. 477:

An act to create in the State Library a State Medical Library and to provide for the maintenance and support of such State Medical Library.

Assembly Bill No. 500:

An act to amend Section 2 of Chapter 233, Statutes of 1903, entitled "An act imposing a license tax upon itinerant venders of drugs, nostrums, ointments, or appliances sold for the cure of diseases, injuries, or deformities," approved March 20, 1903, as amended.

Assembly Bill No. 1409:

An act to amend Section 2 of Chapter 233, statutes of 1903, entitled "An act imposing a license tax upon itinerant venders of drugs, nostrums, ointments or appliances sold for the cure of disease, injuries or deformities," approved March 20, 1903, relating to the licensing of itinerant vendors. (Referred to Committee on Medical and Dental Laws.)

Assembly Bill No. 1433:

An act to amend Sections 1, 5, 6, 7, 9, and 11 of an act entitled "An act to regulate the sale, possession, distribution and use of habit-forming narcotic and other dangerous drugs and substances, and providing penalties for the violation thereof," approved May 4, 1929, relating to special counsel, penalties and confiscation of drugs; and to add thereto a new section, numbered 5a, relating to parole officers.

Assembly Bill No. 1501:

An act to amend Section 11 of an act entitled "An act to insure the better education of dental surgeons and to regulate the practice of dentistry in the State of California, providing penalties for the violation thereof," approved May 21, 1915, as amended.

Assembly Bill No. 1502:

An act to amend Section 14 of an act entitled "An act to insure the better education of dental surgeons and to regulate the practice of dentistry in the State of California, providing penalties for the violation hereof," approved May 21, 1915, as amended.

Assembly Bill No. 1503:

An act to amend Section 13 of an act entitled "An act to insure the better education of dental surgeons and to regulate the practice of dentistry in the State of California, providing penalties for the violation hereof," approved May 21, 1915, as amended.

Assembly Bill No. 1504:

An act to amend Section 12 of an act entitled "An act to insure the better education of dental surgeons and to regulate the practice of dentistry in the State of California, providing penalties for the violation hereof," approved May 21, 1915, as amended.

Assembly Concurrent Resolution No. 10:

Assembly Concurrent Resolution No. 10, relative to an investigation of the dental department of the San Francisco College of Physicians and Surgeons. (Referred to Committee on Medical and Dental Laws.)

Assembly Bill No. 945:

An act to provide emergency hospital care and medical treatment to persons injured on a public highway. (Referred to Committee on Motor Vehicles.)

Assembly Bill No. 1119:

An act authorizing cities of the sixth class to sell, lease, or otherwise manage, control or dispose of municipally owned hospitals. (Referred to Committee on Municipal Corporations.)

Assembly Bill No. 1143:

An act to establish institutions for the confinement, treatment and rehabilitation of narcotic addicts; to provide for the government and maintenance thereof; to provide for commitment and admission to such institution; to provide penalties for violations of any of the provisions of this act; to provide a fund for the establishment and maintenance of such institutions, and to make an appropriation therefor. (Referred to Committee on Public Charities and Corrections.)

Assembly Bill No. 896:

An act to provide for the adoption and use of a uniform fire alarm code signal in all schools, hospitals and other public institutions. (Referred to Committee on Public Health and Quarantine.)

MUCH IN LITTLE*

The old partnership of skin and genito-urinary work is rapidly disintegrating, each of the partners living happily in his home.

The old hoary legend that skin patients never die and never get well is convicted on both counts; few of them die, and most of them get well.

Why is it that an average practitioner takes such a pride in making the unsolicited admission that "he does not know a thing about skin diseases" while he would not admit half as much about any other branch of clinical medicine?

The "light" treatments, so popular at present, are often heavy enough to produce an unlooked for burn or blister.

Illustration of psychology in dermatology: a patient with fatal pemphigus does not worry the dermatologist half as much as a young flapper with a mild case of acne.

Another dermatologic declassé—carbolic acid. Actinotherapy and modern precise diagnosis have cut down its popularity to the very minimum.

Name five common indications for specific treatment. Answer: Five dollars per injection.

Skin diagnosis is deeper than its subject-matter.

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* Members of the California, Nevada, and Utah Medical Associations are invited to contribute to this column of aphorisms, which will appear from time to time in California and Western Medicine, as sufficient copy accumulates. The aphorisms in this issue were sent in by Moses Scholtz, M. D., Los Angeles.

Year's Work at Medical Center of University of California Closes.—The annual report made by F. S. Durie, assistant comptroller of the University of California in charge of San Francisco departments, has just been received by Luther A. Nichols, comptroller, summarizing the work of the Medical School, University Hospital, College of Dentistry, and other departments for 1930.

The report reveals that the bed capacity of the University Hospital has been increased from 283 to 287 patients, and the new clinic for thoracic surgery was opened as a result of a gift of $105,000 from Mr. and Mrs. George Roos.

During the year 5307 patients were hospitalized for a total of 62,724 patient days; 134,006 persons were treated in the out-patient department during 156,031 visits; 7790 patients were treated in the College of Dentistry Infirmary; 504,590 meals were served in the University Hospital to patients, nurses, employees, and doctors; and an average of 10,000 pieces of laundry were washed in the university's own laundry every day.

It is the opinion of Comptroller Nichols that the San Francisco Medical Center of the University of California is steadily growing to the position of state-wide service that Dean Langley Porter of the Medical School, Dean Guy S. Millberry of the College of Dentistry, Dr. Karl F. Meyer, director of Hooper Foundation, Dean H. C. Biddle of the College of Pharmacy, and Dr. L. S. Schmitt, director of the hospital, have established as the ideal toward which they should strive. Each year the number of patients from all parts of the state increases, and the number of public health organizations with which the University is coöperating grows greater.—*U. C. Clip Sheet.*

PUBLIC HEALTH WORK

A STATEMENT ON THE LOS ANGELES COUNTY HEALTH DEPARTMENT*

By J. L. Pomeroy, M. D.
County Health Officer

Statements have been published by Dr. George Parrish, health officer of Los Angeles City, relative to the necessity for health centers in Los Angeles County and other statements giving the impression that the health department of Los Angeles County has been extravagant and claiming that such institutions are not necessary. The difficulty lies in the fact that Doctor Parrish does not attempt to analyze the difference in health administration of a large city with numerous accessory health activities supported through other agencies than the municipality and the public health administration of a large rural area of some 3400 square miles and thirty-five cities which do not have the accessory resources of a metropolitan city like Los Angeles. He has often quoted the per capita of 59 cents for the city health department as if this sum represented the total investment of the people of Los Angeles in public health. He has frequently compared the per capita costs of 59 cents with the per capita cost of Los Angeles County of $1.66, but he never explains to his audience the difference in the functions carried on by the two departments. Herein lies the crux of the entire situation.

In the rural districts and the small cities the county health department, besides the ordinary functions of public health as carried on by most health departments, has been compelled to meet the situation of school health work, of emergency hospital care, of clinics for the indigent sick, as well as housing not only for the above functions, but also for the local branch of the county welfare division of the Los Angeles County charities department. Several years ago the question came before the Board of Supervisors as to the advisability of splitting the appropriation for the new General Hospital and building district branches of this institution. A committee of experts from other cities than Los Angeles investigated the situation and made a report. This report recommended the centralization of the main county hospital on the grounds it then occupied on Mission Road and the building of local dispensaries in various districts throughout the county. As a result of this recommendation the Board of Supervisors agreed upon a plan which would house the above mentioned functions and rather than call them dispensaries use was made of the term "health and welfare center" since the building carried other activities besides that of health alone. The attempt of Doctor Parrish to point to the extravagant, expensive health centers costing, according to his statement, some $500,000, becomes rather ridiculous when the Board of Supervisors is expending $11,000,000 in a new health center, namely, the new County Hospital, in the city of Los Angeles. Besides this, several million dollars have, in addition, been expended in enlarging Olive View Sanatorium for Tuberculosis and in erecting buildings largely for medical care at the County Farm. The truth is that at the time the program was commenced for health centers in the rural districts and small towns, there was scarcely a free hospital bed or free clinic or any other means provided by the county outside of the city of Los Angeles. Great suffering resulted not only during ordinary times, but extreme conditions prevailed during every epidemic. It was only a matter of justice that provision should be made in the small towns and rural districts for the local care and welfare of the indigents similar to that being given by the county in Los Angeles City.

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* Dr. J. L. Pomeroy, health officer of the County of Los Angeles, has sent in this statement in reply to some excerpts from the reports of Dr. George Parrish, health officer of the city of Los Angeles, which excerpts were printed in the February, 1930, number of California and Western Medicine, page 140.

School Health

Nor does this by any means tell the whole story. In Los Angeles City, besides the activities of the municipal health department, the Board of Education expends nearly one-half million dollars on a school health department which is performing a very remarkably effective service not only for the promotion of health, but also for the prevention of the spread of communicable diseases. The expenditure of the city school health department amounts to 36.5 cents per capita over and above the 59 cents per capita of the Los Angeles city health department. No such provision or organization exists in the county health department area, so that for many years the county health department has had to carry this burden itself, not only in nursing and medical services, but also clinics for the care of the school child. In Los Angeles City the well-organized Yale Street Parent-Teacher clinic, as well as many other public and private clinics supply this need through private philanthropy. Doctor Parrish makes no mention whatever of these facts in his analysis of the situation.

Emergency Hospital Care

In Los Angeles County the death rate from automobile accidents has climbed since 1926 from thirty per hundred thousand to thirty-seven per hundred thousand. It is a well known fact throughout the United States that at least 50 per cent of the people involved in these accidents either refuse to pay for medical and hospital care or are unable to. This problem is one of the greatest problems before the American Hospital Association and the medical profession throughout the entire United States. In the rural districts and small towns the conditions became deplorable. It was therefore absolutely necessary to provide in the county health and welfare centers for this service as a public health measure. A large amount of money in the county health department budget is spent for this service, while in Los Angeles City the cost does not fall on the health department but on the Los Angeles Receiving Hospital, which is separately financed from the city health department. This sum amounts to 26.3 cents per capita in the city of Los Angeles which should be added again to the amount of 59 cents in order to make any just comparison to and with the costs of administration of the Los Angeles County health department.

Clinics for the Indigent Sick

Approximately 25 per cent of the floor space of our county health and welfare centers is taken up by the offices for the local branches of the County Welfare Division of the County Charities and clinics and appurtenances for the care of the indigent sick. It must be remembered that the total area of Los Angeles County is slightly over 4000 square miles. It is naturally impossible to provide for the care of the indigents and dependents entirely at a central institution such as the Los Angeles General Hospital. As a matter of fact the poor patient has no means to travel twenty-five to eighty miles for out-patient care. A total of 32.6 cents per capita of our $1.66 per capita goes for this purpose.

What is the comparative situation in Los Angeles City? Does Doctor Parrish provide for all of this service out of his 59 cents? The answer is that he does not. His attention has been repeatedly called by the writer to the facts herein given, but he chooses to ignore them utterly.

In Los Angeles City many organizations are carrying the load that falls in the county on the county health department. For example: At the General Hospital the sum of $356,471 is expended in the out-patient department which is naturally serving the metropolitan district of Los Angeles City. Even in tuberculosis, venereal diseases and similarly related public health clinics alone, an immense amount of work is done in this out-patient department. In addition, in the health budget of the Community Chest of Los Angeles City nearly $850,000 is expended in various clinics and other activities for which no counterpart exists in the small towns and rural districts. This latter sum amounts to 68.8 cents per capita. In addition the City Tuberculosis Association, one of the oldest and best organized in the state, is in fact carrying the largest burden of tuberculosis work in Los Angeles City. This sum amounts to 7 cents per capita over and above the 59 cents for general municipal purposes quoted by Doctor Parrish. In the county we have only one small tuberculosis association, the health department carrying the major part of the program because of the poverty of our people. The contribution to the county health department program amounts to only two cents per capita. Other organizations in Los Angeles City which materially relieve the burden of public health are: the Metropolitan Life Insurance nursing service, which expends nearly $50,000 annually; the Los Angeles City Maternity Association, expending approximately $10,000 annually, as well as the various clinics such as the Graves Memorial on North Broadway, the College of Medical Evangelists on Boyle Avenue, and many others for which no figures are available.

County Provides for Communicable Disease Hospitalization

In addition, Doctor Parrish fails to mention the fact that at the General Hospital and at Olive View Sanatorium the county provides in its general budget for the hospital care of infectious diseases and tuberculosis. This is a normal charge against the municipal health department, as in San Francisco, Detroit, and other cities. The city of Detroit, which has approximately the same population as Los Angeles, expends almost $1 per capita for these functions. Even if we take the average for the entire United States, amounting to 20 cents per capita, this figure means an addition to the city health department budget of $250,000, which, of course, Doctor Parrish makes no mention of whatever. It is naturally much larger than this owing to the fact that tuberculosis is without doubt the biggest public health problem in the city of Los Angeles, and it is highly probable that the true cost is more nearly $1 per capita than 20 cents.

Per Capita Costs in Other Cities and Counties

It is fortunate that the recent survey made by Dr. Joseph W. Mountin, surgeon, United States Public Health Service, is available for Alameda County for purposes of comparison. The total per capita cost for Los Angeles County which Doctor Parrish claims is extravagant is $1.66.

Alameda County Costs.—Comparing the costs of similar services from the survey of Alameda County, we find the following figures:

Preventive services	$1.06
Emergency services	.09
County physicians	.032
Oakland Health Center	.194
Baby Health Center	.07
Berkeley Health Center	.123
Alameda Health Center	.041

The total, therefore, comparable to Los Angeles County service is $1.61. Consequently there is actually only five cents difference per capita between the present rather unorganized condition in Alameda County and the highly organized situation in Los Angeles County. It is further notable that Doctor Mountin recommended the use of the contract plan for Alameda County as being performed in Los Angeles County and that the cities be organized under the county government; that a unified program of county health centers be developed and the school health work, emergency service, and social service be coördinated as they are in Los Angeles County.

Cost of Health Centers

The total cost of operating the health centers in Alameda County, exclusive of county institutions but including the cost for emergency services and indigent home calls by physicians is 55 cents per capita. The per capita cost for similar services in Los Angeles County is estimated to be 42 cents per capita. The attempt, therefore, of Doctor Parrish to make it appear that the expenditures in the operation of the county health department are in any sense extravagant is not capable of proof in any manner whatever.

In comparison to cities of similar size throughout the United States we find the following per capita costs for preventive services:

Cincinnati	$2.09
Montreal	1.81
Buffalo	1.74
Cleveland	1.67
Alameda County (including all cities)	1.54
Boston	1.53
St. Louis	1.50
San Francisco	1.46

When one places the per capita of 59 cents of Los Angeles City against these above per capitas, the explanation is obvious. Other organizations are carrying the cost of public health work in Los Angeles City as previously explained.

CONSOLIDATION

There are many fallacies in the general theory that consolidation necessarily means the saving of money. Los Angeles County is peculiarly situated. In the first place the size alone requires district management. In the second place we have a very large foreign population of probably not less than 250,000 Mexicans, who are a continual menace from plague, smallpox, tuberculosis, and other diseases. The prevailing idea throughout the United States in public health is that of district organization rather than bureaucracy. While undoubtedly some money may be saved by city and county consolidation in Los Angeles, the question is one to be approached with a consideration of the present tremendous waste of money in caring for end results such as the care of the tuberculous, where it is admitted by the superintendent of Olive View over 75 per cent of the cases are in the advanced stage on entrance. Similar studies should be made in relation to heart disease, cancer, and maternity and child hygiene. While we are spending millions in the care of the sick, as a matter of fact the health department receives but a mere pittance. The statement that Doctor Parrish makes is: "With practical management, the same standard as now maintained in the county and city could be continued and one-half million dollars saved to the taxpayers." Since such a statement means cutting the total combined budgets of the two departments 33⅓ per cent, the statement that the same standards could be maintained on one-third less budget is nothing short of absurd. The truth is, that Doctor Parrish has never studied the county health department organization and, to my knowledge, has never visited a health center nor is he familiar with the work that we are doing. What his plans would do through consolidation would be annihilation.

Those who understand the growth and development of the county health department know that during the past sixteen years we have brought together in a harmonious relationship not only the unincorporated area, but thirty-five of the incorporated cities with the results of a reduction in infant mortality of over 65 per cent, a reduction of diphtheria morbidity and mortality of over 50 per cent, and similar marked reductions in other communicable diseases, particularly typhoid and water-borne diseases which, after all, are some of the main purposes of the health department.*

TWENTY-FIVE YEARS AGO *

EXCERPTS FROM OUR STATE MEDICAL JOURNAL

Vol. IV, No. 3, March 1906

From some editorial notes:

State Journals.—The present is an exceedingly interesting period in medical development in this country. The last three or four generations of the last century saw the growth of many medical schools and the output of many physicians. . . . A few years ago it was estimated that about half the physicians in this county made no effort to keep up with medical progress by reading current medical literature. But all this is changing. . . . The privately owned and "published-for-profit" medical journal and the nostrum maker appeal not to the intelligent, but to the ignorant, and they, too, are afflicted with the same illness which is causing the timely death of the "diploma mill." All over the country medical organizations are awaking to the fact that it is highly desirable to own and control their own medical publications, and thus have a medium for intercommunication and for publishing the truth. . . . The day of the uneducated physician is gone, and the day of nostrum-supported and "published-for-profit" medical journals is almost at its end. . . .

* * *

Curious Conditions.—The present stirring up in the nostrum business is resulting in some very curious situations. The *Ladies' Home Journal* has published a bill, ideal in its construction, requiring the formula to be printed on the label of all packages of medicine containing alcohol or habit-forming drugs, and the bill has been introduced into the legislatures of several states. . . .

* * *

Dangerous Prescriptions.—Every physician must realize the danger of forming morphin or cocain habit by frequent and unauthorized refilling of a prescription calling for these drugs; every pharmacist knows the difficulty of preventing refilling without losing a customer. . . .

* * *

Weekly Meetings.— . . . When the general public comes to learn that county medical societies are not "medical trusts," but that they are the centers of medical education and that the result of the work done in the county society is a direct and important benefit to the public, we will find that many of the dissensions and altercations between physicians and laymen will cease. The general public suffers much more from the ignorance which almost invariably is to be found in a dormant or a quarreling medical profession than do the physicians themselves. . . . But these highly desirable results cannot be secured by a mere paper organization; the physicians of the county *must* get together frequently and *must work.*

* * *

How You Can Help.—We take pleasure in reprinting a paper read by Mr. Wilbert before the Philadelphia County Medical Society dealing in a peculiarly clear manner with the nostrum business. . . . "Dr. Alfred Stengel agreed with Doctor Cohen in the idea of withholding subscriptions or articles from journals advertising such nostrums as are excluded from the "Journal of the American Medical Association."

. . . Doctor Cabot suggested one other remedy (of the nostrum evil), namely: If the 200 or 300 physicians who are contributors of articles to the best medical journals would refuse to allow their papers to be printed in any journal which admits nostrums to its advertising pages, their influence might be decisive.

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* The county auditor, Mr. H. A. Payne, has just released the public financial transactions of the county government for the year ending June 30, 1930. The figures show that the expenditures for the county health department make up only 1 per cent of the grand total for the county. It certainly should serve to refute the statement of Doctor Parrish that the health department expenditures are extravagant when education and public schools expended 50 per cent of the total county expense, charities and corrections 10 per cent, bonds and interest 10 per cent, highways and bridges 8.8 per cent, general government 8 per cent, protection to persons and property 4.7 per cent, and miscellaneous expenditures, recreation, etc., 5.7 per cent of the total. In other words, the county health department has the smallest expenditures of any department in the county service, while ten times as much money is going for medical treatment in institutions than for prevention.

* This column strives to mirror the work and aims of colleagues who bore the brunt of state society work some twenty-five years ago. It is hoped that such presentation will be of interest to both old and recent members.

From an article on "The Differentiation of the (So-Called) Seborrheic Conditions of the Scalp" by Ernest Dwight Chipman, M. D., San Francisco:

Dermatology has long suffered from the reproach of an atrocious nomenclature. Different schools recognize the same affection under different names and quarrel over different diseases bearing the same name. One school seeks to bring an entire group under a single title; another resents this generalization and attempts to give a name to every symptom.

* * *

From an article on "Indications and Contraindications for Intralaryngeal Operation in Tuberculosis of the Larynx, with Report of Three Cases" by Cullen F. Welty, M. D., San Francisco:

Because of the climate of southern California, a great many people with tuberculosis of the lungs make this their permanent home; others who are not so fortunate come to this climate during the time of the disagreeable weather at their own homes.

Because of this fact the laryngologists of this section have an exceptional opportunity of observing these cases of laryngeal tuberculosis, and it is for this reason that I present this paper at this particular place.

DEPARTMENT OF PUBLIC HEALTH

By Giles S. Porter, M. D., *Director*

Rabies Reminders.—What to do with the dog and how to decide the question of the Pasteur treatment are subjects of great interest to one who has been bitten. The following are the recommendations of the State Department of Public Health:

1. All dog bites, particularly of the face, should be cauterized as soon as possible with fuming nitric acid, or, if this is not at hand, with ordinary strong nitric acid. If necessary, an anesthetic may be given for this operation, as the acid should be carried to the depths of the wounds with a pointed glass rod.
2. If the animal that did the biting is not definitely and certainly rabid or if it shows no symptoms at all, it should be confined instead of being killed, until the presence of rabies can be determined. If the dog remains well for ten days it did not have rabies at the time of biting.
3. The reason for this detention is to enable the person bitten to have the benefit of the information obtained. If detention shows the dog *not* to have rabies, the person may then forego the treatment or discontinue it, if already begun.
4. The finding of Negri bodies may be a matter of importance to establish the presence of rabies in a territory not known to harbor the infection, but in most cases it is of academic interest only. The decision as to treatment should have been made before, except, of course, when the dog shows no symptoms, or symptoms not suspicious of rabies.
5. The inauguration of treatment should never wait upon the finding of Negri bodies when the dog shows symptoms that are suspicious of that disease.
6. The object of holding a dog for observation, then, is to settle the fact that it has *not* rabies, rather than to settle the fact that it has by laboratory test.
7. It is not true that a brain always shows Negri bodies when the rabid animal is allowed to die: under those circumstances, Negri bodies are usually found, but a negative report is not conclusive evidence against the diagnosis of rabies. Persons bitten by dogs, which by the symptoms are likely to have rabies, should take the Pasteur treatment even though the laboratory report is negative.
8. Death from rabies involves so much suffering that it should not be imposed needlessly on any animal, and any animal suffering from rabies should be put out of its misery at once and any person bitten put on the antirabic treatment without delay.
9. If an animal has been exposed to rabies by having been bitten by a rabid animal or has otherwise been exposed to the infection, the animal exposed should be held under observation for three months or killed.

Spotted Fever Vaccine Available.—The following information relative to the distribution of Rocky Mountain spotted fever vaccine has been received from the United States Public Health Service Laboratory at Hamilton, Montana:

> It is advised that the supply of Rocky Mountain spotted fever vaccine for the season of 1931 will be available for distribution from this laboratory about February 1. As in previous years it will be forwarded directly to physicians on application. It has, however, in some instances been found advantageous that a small supply for quick distribution be in the hands of the state health officer, and we will be glad to make such an arrangement for your state if desired.
>
> The amount of vaccine produced has been doubled each year for the past three seasons and it is expected that the production for 1931, if not double that for 1930, will at least be considerably in excess. However, since the actual amount which will be suitable for distribution will not be known for some time, it is impossible to predict the quality of the vaccine until the separately prepared lots are tested for potency.
>
> It is hoped that it will be possible for you to communicate the following points concerning the use of the vaccine to the physicians of affected portions of your state:
>
> 1. Requests for vaccine should be addressed to the Officer in Charge, United States Public Health Service, Hamilton, Montana.
> 2. Each request for vaccine should specify either the number of persons to be vaccinated or the number of cubic centimeters needed on the basis of 4 cubic centimeters to the person.
> 3. Vaccine is furnished to physicians without charge and the charge for administration should be nominal.
> 4. The vaccine is very expensive to manufacture and amounts requested should be limited to use which can be foreseen.
> 5. Reports received at the Hamilton station suggest that if vaccine is administered soon after a bite by an infected tick a considerable amelioration of symptoms and shortening of the course of infection may result. Physicians will therefore be justified in recommending the taking of the vaccine by tick-bitten persons as soon as possible after the bite is received.
> 6. Therapeutic use of the vaccine after onset of symptoms is not recommended. In sections where the less fatal types of infection occur, some physicians have so used it, with supposed good results, but the difficulties which prevent certainty on this point can be readily understood. Results in the highly fatal Bitter Root Valley cases have suggested that in the more severe types of the disease its use may even be harmful.
> 7. It is especially requested that the officer in charge of the Hamilton laboratory be advised of any cases of spotted fever which may occur in vaccinated persons and that as detailed a clinical record as possible be kept of such cases.

Normal Posture.—The following is from a new publication, *Posture Training,* issued by the Bureau of Child Hygiene of the State Department of Public Health:

> The normal posture may be measured by an imaginary yardstick, a straight line, which, in the correct standing position, should pass through the ear, the shoulder, the hip joints, just behind the knee cap, and slightly in front of the ankle joint. As we view the body from the back we may also use a straight line as a measuring stick. Vertically, this imaginary straight line should pass through the center of the back of the head, along the entire length of the spine, down between the crevice formed by the larger hip muscles, and directly between the knees and the ankle joints. Both hips, both knees, and both ankles should be equal distances from this center line. We should, also, be able to draw straight horizontal lines to measure the normal relationship of the shoulders and of the hips. This position should be one of ease, not one of strain and tenseness.
>
> Accordingly, in the normal standing position we should find:
>
> 1. Feet slightly apart, inner arch held high, toes pointing straight ahead.
> 2. Weight slightly forward over the balls of the feet.
> 3. Knees firm but not tense, neither bowed nor knocked.
> 4. Hips firm—not protruding backward.
> 5. Both hip bones level.
> 6. The pelvis girdle, which is indicated by the hip bones, held up in front.
> 7. Lower abdomen flat.
> 8. Chest lifted, and that part of the body which is foremost.
> 9. Shoulders level and "easy" (not shrugged upward).
> 10. Head poised comfortably on top of spine so that eyes do not have to be lifted to look forward. Chin neither up nor in.

CALIFORNIA BOARD OF MEDICAL EXAMINERS

By Charles B. Pinkham, M. D.
Secretary of the Board

News Items, March 1931

An unusually large number of applicants wrote the examination given by the Board of Medical Examiners in Los Angeles, February 2 to 5, inclusive.

* * *

Changes in Status of Licentiates. — The Board made the following changes in status of licentiates heretofore penalized:

Samuel D. Cotterell, M. D.—Revoked October 22, 1930; was restored to practice February 2, 1931, and placed on probation for a period of five years without narcotic privileges or possession.

James A. Hadley, M. D.—Narcotic privileges restored February 2, 1931.

Donald Eugene Harris.—Revoked March 1, 1928; was on February 5, 1931, restored to practice and placed on probation for a period of five years without narcotic or alcohol privileges or permits.

Walter C. Hoyt, M. D.—Revoked October 22, 1930; was restored to practice February 2, 1931, and placed on probation for a period of five years without alcohol permit.

Charles R. Knox, M. D.—Probation set aside February 5, 1931.

Frederick K. Strasser, M. D.—Probation set aside February 5, 1931.

Orren R. Wakefield, M. D.—Revoked July 15, 1926; was on February 2, 1931, restored to practice and placed on probation for a period of five years without alcohol or narcotic permit or possession.

* * *

Hearings and Action Taken.—Eighteen hearings appeared on the legal calendar and final action was taken in the following cases:

Assad Abdun-Nur, M. D., Los Angeles.—Was on February 4, 1931, placed on probation.

Roy L. Buffum, M. D., Long Beach.—Following a stipulated plea of guilty to violation of the terms of his probation, was on February 4, 1931, revoked.

Ernest M. Freeman, M. D., Long Beach.—Following his plea of guilty to a charge of alleged illegal operation, was on February 4, 1931, revoked.

Walter W. Hopson, M. D., Los Angeles.—Was on February 5, 1931, found guilty of narcotic charges and placed on probation for a period of five years without narcotic possession or privileges.

David E. Matzke, M. D., Carmel.—Was on February 3, 1931, found guilty and placed on three years probation without narcotic possession or privileges.

Vincenzo Reno, M. D.—Formerly located in Los Angeles. Was on February 4, 1931, revoked.

* * *

Dismissal of Charges.—Charges against the following physicians were dismissed:

Axentie Babienco, M. D., San Diego.—Dismissed February 3, 1931.

Charles M. Graham, M. D., Los Angeles.—Dismissed February 3, 1931.

Howard Hart, M. D., Los Angeles.—Dismissed February 4, 1931.

Victor Sheldon-Smith, M. D., Los Angeles.—Dismissed February 4, 1931.

Archie Williams, M. D., Long Beach.—Dismissed February 5, 1931.

* * *

Reports.—The *Legal Department* reported that the Appellate Court had sustained the Board of Medical Examiners in the revocation of the license of Fred B. Tapley, M. D., Marysville.

Report of the Law and Education Committee called attention to various bills pending before the present legislature, among which was Assembly Bill 1281, creating a naturopathic board of examiners and specifying the administrative features thereof.

The following bills were reported as setting aside the present law relating to term appointments of members on various boards; Assembly Bill 1204—Patterson; Assembly Bill 1205—Patterson; Senate Bill 473—Fellom; Senate Bill 474—Fellom. Senate Bills 634 and 635 are skeleton bills amending Sections 1, 2, 3, and 4 of the Medical Practice Act.

At the request of the deans of the medical schools of California, Senate Bill 463 was introduced by Senator Williams, amending Section 9 of the Medical Practice Act, adding a one-year requirement.

Assembly Bill 477—Nielsen, proposes to establish a medical library from funds of the Board of Medical Examiners in excess of $110,000.

Senate Bill 486—Hayes, proposes to require whenever the prefix "Dr." or suffixes "M. D.," "D. O.," "D. C.," etc., are used that it will be necessary to add the name of the school and the name of the state board which licensed the individual using such degree.

"Dr. Fred B. Tapley today had failed in his latest attempt to prevent the State Board of Medical Examiners from revoking his license to practice medicine. The State Appellate Court sustained the verdict given last year by Superior Judge Walter Perry Johnson of San Francisco, denying Doctor Tapley's appeal from the action of the medical board. The license was revoked after Tapley had been tried and acquitted in Marysville for responsibility for the death of an alleged victim of an illegal operation" (Sacramento *Bee*, January 29, 1931).

On January 23, M. E. Brooks pleaded guilty in the Justice Court of San Diego to a violation of Section 17 of the Medical Practice Act and paid a fine of $400, according to reports of our investigation department, which reports also state that Mr. Brooks advertises that "more than ten thousand incurable persons in twenty-nine nations have gained their health with the help this great scientist and drugless physician has been able to render." The report further relates that Brooks stated in court that he was not a doctor and that he had not attended a medical school.

Despite the warnings sent out by the Board of Medical Examiners to every newspaper in the State of California, the eyesight "swindlers" still find gullible victims.

* * *

On January 12, Mr. S. P. Lindgren, Van Nuys, California, reported that he had given a check for $250 to a couple of eyesight swindlers who gave the names of "Dr. H. E. Herman" and "Dr. Howard." Lindgren reports that this pair perpetrated the old swindle of dropping alleged radium solution into the eye, claiming that although they had used $686 worth of the precious fluid, they would charge Lindgren only $250, which he paid with a check.

* * *

"With one elderly Ventura woman already a victim of an organized band of eyesight swindlers, Sheriff Robert E. Clark today issued a general warning to citizens of this county and requested that any person claiming to be a traveling eye specialist be reported at once to his office. . . . After reporting circumstances of the case here in which a woman was bilked of more than $600 by alleged 'eyesight experts' to the medical board, Sheriff Clark was informed of an organized group of men known to the state as 'eyesight swindlers' working in California. All have prison records and pictures, and descriptions forwarded to the sheriff tally with those of the men last seen in Ventura County" (Ventura *Free Press*, January 23, 1931).

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TRUTH ABOUT MEDICINES

(Continued from Page 31)

Association issued a report emphasizing the hazard arising from the use of methyl chlorid in refrigerators. In the view of the committee it is more commendable to work toward the attainment of a nonhazardous refrigerant than toward the attainment of a usable warning agent. Nevertheless, chemical manufacturers have apparently been able to induce the Bureau of Mines to make studies of the properties of methyl chlorid and methyl chlorid to which has been added acrolein, an irritating warning agent. One of these concerns, the Roessler & Hasslacher Company, markets methyl chlorid under the trade name of "Artic" and Methyl Chlorid A, which is pure "Artic" plus one per cent of acrolein. A report of the Bureau of Mines appeared which was written in such a way as to lend itself to use as advertising copy by writers seeking to create favorable propaganda for commercial exploitation of methyl chlorid. The report emphasized that methyl chlorid exerts no deleterious effects on the contents of the refrigerator and implied that it is, therefore, of no importance whether or not methyl chlorid escapes into the refrigerator. The major point—the hazard of escaping methyl chlorid to occupants near the source of the leak—is not stressed. The Roessler & Hasslacher Chemical Company has used the report to create the impression that "Artic" is a relatively harmless substance and the last word in efficient and safe refrigerants. It is unfortunate that a branch of the government, the Bureau of Mines, has been swayed to serve more the interests of chemical manufacturers than to serve the interests of the public.—*Journal of the American Medical Association,* January 24, 1931, p. 272.

The Hormone of the Adrenal Cortex.—The Swingle-Pfiffner cortical hormone "extract" has been tested in cases of Addison's disease at the Mayo

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Clinic. Hartman, Brownell and Hartman also have been able to prepare an extract of the adrenal cortex that will prolong the lives of adrenalectomized animals indefinitely. They also have revived a patient with Addison's disease having a systolic blood pressure of 50 millimeters and a pulse of 120 a minute by the use of their preparation of the hormone, for which they propose the name Cortin. "Cortin" administered by mouth appears to give little or no benefit. It is best administered subcutaneously except in circulatory failure in which absorption is greatly reduced; then intravenous injection is employed. One may soon confidently expect the relief of the dire Addison's disease by the cortical hormone.—*Journal of the American Medical Association,* January 24, 1931, p. 273.

Professor Paul C. Bragg.—Bragg's scheme is one that has become increasingly popular during the past few years with those who live by their wits. Ignoramuses or swindlers with a flair for public speaking, confer on themselves ornate titles, create paper organizations with high-sounding names, and give what are described as "free lectures," but which are, in fact, merely pieces of come-on advertising for books and nostrums they have for sale and especially for so-called classes, for which a round charge is made. Bragg, like most of the ilk, works particularly along two lines: Food fads, and sex. As another of his activities, Bragg, unfortunately for himself, went into the mail-order business. So long as the general level of intelligence remains what it is, systems like Bragg's are likely to remain profitable and safe. Using the mails to defraud, however, is another problem, and here is where Bragg made a tactical error. The postal authorities called on "Professor" Paul C. Bragg and his National Diet and Health Association of America, and his Bragg Laboratories, to show cause why a fraud order should not be issued against

(Continued on Next Page)

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TRUTH ABOUT MEDICINES

(Continued from Preceding Page)

them. In due time such an order was issued.—*Journal of the American Medical Association,* January 24, 1931, p. 288.

Antitoxins Against Scarlet Fever.—No "one-shot" method of active immunization against scarlet fever has proved effective. The present status of the "ricinoleated antigens" is that they are of unestablished value. Their therapeutic action has not been proved. Scarlet fever ricinoleated antigen has been distributed by only one concern and that concern has recently discontinued the manufacture and distribution of ricinoleated antigen and is recalling it from the market.—*Journal of the American Medical Association,* January 24, 1931, p. 292.

Thymophysin.—Thymophysin is a foreign proprietary preparation of posterior pituitary and thymus claimed to be an oxytocic to accelerate normal delivery. In German periodicals, many articles have appeared praising the virtues of this mixture for use in the first and second stages of labor. Even in America a number of favorable but uncritical articles have been published. Erwin E. Nelson, of the University of Michigan, has reviewed the literature and carried out experimental investigations. He points out that the literature reveals no controlled evidence that the oxytocic or pressor activities of pituitary is altered by the addition of thymus extract. From his experimental work it appeared that, in this country at least, Thymophysin is incorrectly labeled as to its strength and no difference could be ascertained in the oxytocic or pressor activity of pituitary extract as compared with pituitary plus thymus extract. Nelson believes that the clinical results obtained from Thymophysin can be explained completely as due to small doses of pituitary extract. Thymophysin illustrates again the pitfalls awaiting those who are not

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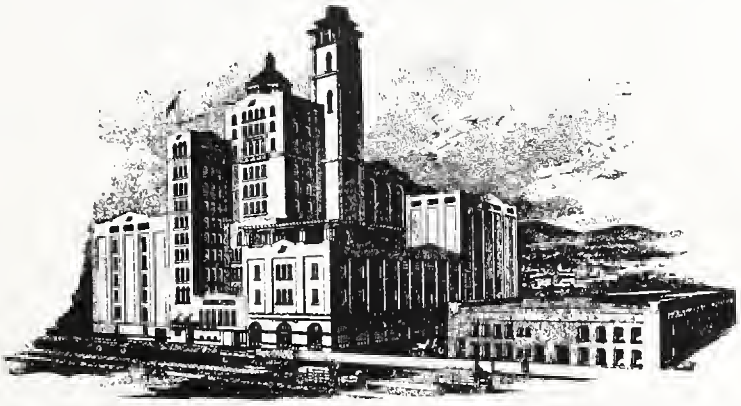

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thoroughly competent to undertake clinical evaluations but who arrive at conclusions based on the use of material the composition and activity of which have not first been scientifically determined. If physicians wish to undertake experimental clinical investigations with drugs, they will save time and protect the interest of the patient by limiting themselves to drugs whose chemistry and pharmacology has first been studied by the Council on Pharmacy and Chemistry.—*Journal of the American Medical Association*, January 31, 1931, p. 359.

Misbranded or Adulterated Pharmaceuticals.—During 1930 Notices of Judgment were issued by the Food, Drug and Insecticide Administration of the United States Department of Agriculture against the following pharmaceutical products that were found adulterated or misbranded: Aconite Tincture: shipped by the Blue Line Chemical Co. Bulgarian Bacillus: tablets consigned or shipped by Fairchild Brothers & Foster. Pure living cultures of Bulgarian bacillus: shipped by the H. K. Mulford Co. Chloroform: shipped from Philadelphia (name of the company not given). Ergot: fluidextract shipped by the Blue Line Chemical Co.; fluidextract shipped by John Wyeth & Brother, Inc. Ether: shipped by American Solvents and Chemical Corporation; shipped by the J. T. Baker Chemical Co.; consigned by the Bayway Terminal (for the Harold Surgical Corporation); consigned or shipped by the Mallinckrodt Chemical Works; shipped by the Ohio Chemical and Manufacturing Co. Magnesium Citrate: shipped by the Citro Nesia Co., Inc.; shipped by the Henry P. Gilpin Co. Nux Vomica: shipped by the Blue Line Chemical Co. Opium: tincture shipped by the Blue Line Chemical Co. Quinine Sulphate Tablets: shipped by

(Continued on Page 41)

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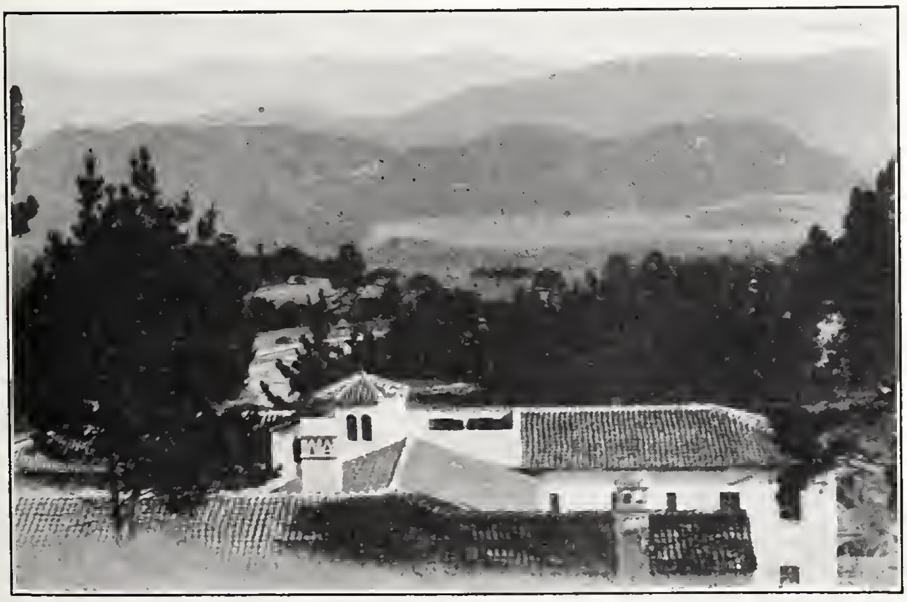

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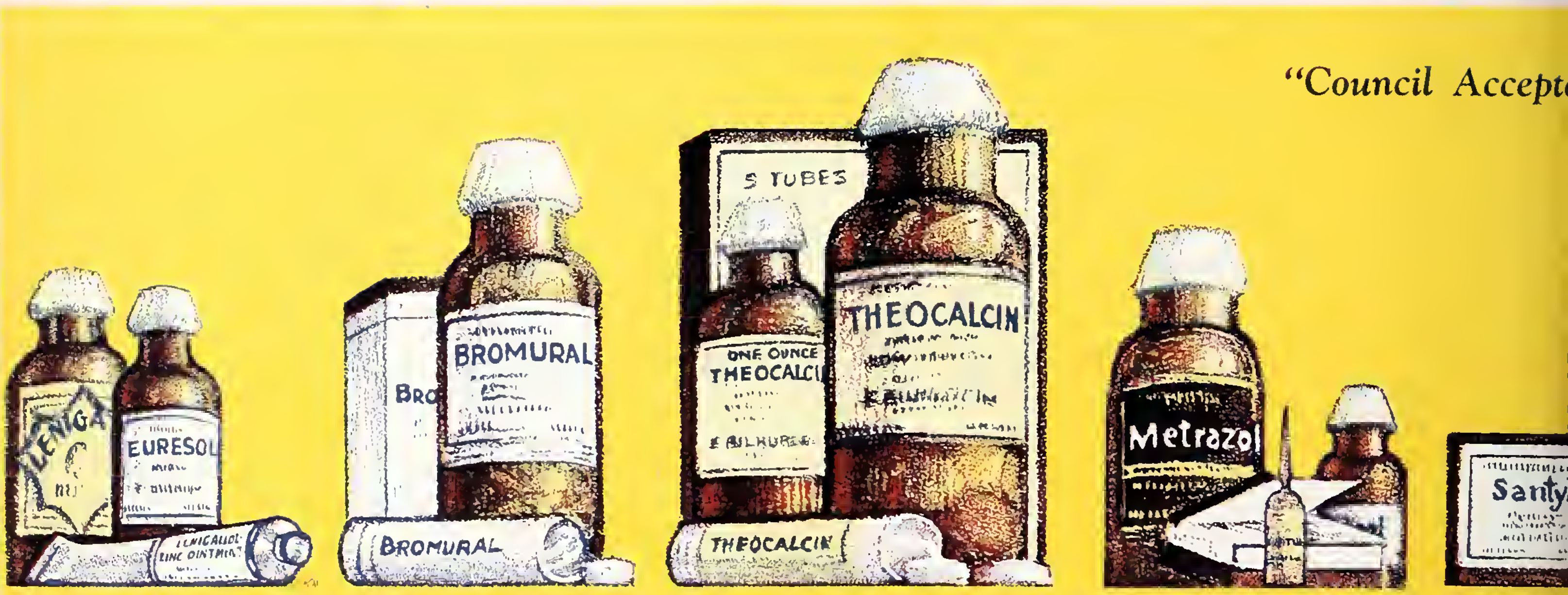
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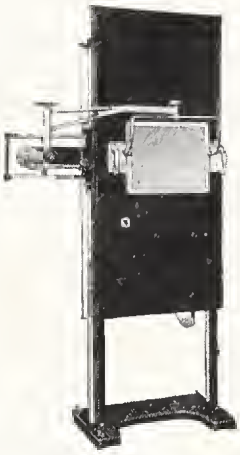

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TRUTH ABOUT MEDICINES

(Continued from Page 37)

the Blue Line Chemical Co. Sassafras: oil shipped by the North Carolina Evergreen Co. Sodium Bicarbonate: shipped by James G. Good, Inc. Strychnine Sulphate Tablets: shipped by the Blue Line Chemical Co.—*Journal of the American Medical Association,* January 31, 1931, p. 375.

Insurol in Diabetes.—"Insurol" is a nostrum sold on the mail-order plan by a concern or concerns known, variously, as the Officinal Products, Inc., and New Life Products Co. Insurol has been described as a "triumph of Germany's biochemical laboratories" and, it is said, "combines insulin with the actual substance of the pancreas gland." In diabetes quackery, two elements are nearly always found: The first is that of requiring the person who uses the nostrum to adopt a diet that is low in carbohydrates. The second, and more common, is that of incorporating in the nostrum a diuretic. The average diabetic patient has some rough-and-ready method of estimating the amount of sugar that is excreted. In a report regarding the assumed effects from Insurol, there are many factors that may explain the alleged reduction of sugar.—*Journal of the American Medical Association,* January 31, 1931, p. 378.

Somnoform.—Yandell Henderson writes that he has recently received from the Stratford-Crookson Company an advertisement of "Somnoform," stated to have the formula: chlorid of ethyl, 83 per cent; chlorid of methyl, 16 per cent; bromid of ethyl, 1 per cent. Henderson believes that if the claim is true that "the record of Somnoform for safety is without equal" the record must be regarded as a pure piece of good fortune for two at least of the ingredients have a toxicity which renders them unfit for use as anesthetics. In 1919 the Council on Pharmacy and Chemistry declared Somnoform inadmissible to New and Nonofficial Remedies because, in the absence of acceptable evidence showing its exceptional safety and value, the claims made for it were held to be unwarranted and because the name of the mixture is not descriptive of its composition.—*Journal of the American Medical Association,* November 8, 1930, p. 1445.

Nature of the Substance in Liver Active in Pernicious Anemia.—The search for the "active principle" which renders liver potent in the treatment of pernicious anemia has resulted in the isolation of an active crystalline salt demonstrated to be clinically potent in pernicious anemia. It is a compound of betahydroxyglutamic acid and hydroxyprolin. Both of these substances possess the characters of protein derivatives; the mode of their linkage remains to be ascertained.—*Journal of the American Medical Association,* November 15, 1930, p. 1509.

The Dugdale Libel Suit. — Frederick Dugdale, M. D., of Lowell and Boston had his license to practice medicine in Massachusetts revoked April 18, 1929, for "gross misconduct in the practice of his profession." The Lowell (Mass.) *Sun* published an account of the hearing connected with the revocation proceedings and stated that the charges against Dugdale grew out of the alleged professional misconduct on his part in the treatment of a patient who subsequently died of cancer. As a result of this publication Dugdale brought suit against the publisher of the *Sun,* charging libel and demanding damages. The case came to trial and the jury brought in a verdict in favor of the newspaper. For some years Dugdale advertised as a "specialist" in "skin, blood and nervous diseases" and operated a mail-order "rheumatism cure"; later he was one of the disciples of the Abrams cult. For some years Dugdale had his own "cancer cure." Still later, as the Koch "cancer cure" became a money-maker, Dugdale became a Koch

(Continued on Page 43)

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TRUTH ABOUT MEDICINES

(Continued from Page 41)

disciple and in the libel suit the Koch "treatment" figured largely.—*Journal of the American Medical Association,* November 15, 1930, p. 1523.

Hexylresorcinol as an Ascaricide.—Lamson and his collaborators believe that they have discovered an effective ascaricide in hexylresorcinol. According to New and Nonofficial Remedies, the drug is stated to be relatively nontoxic when administered by mouth. The drug has irritant properties, but these are not regarded as a contraindication for its occasional use and they are transitory in effect.—*Journal of the American Medical Association,* November 22, 1930, p. 1592.

Viosterol.—Holtz and Schreiber of Göttingen have reached the conclusion that irradiation of ergosterol produces a number of distinct subsances. One is the antirachitic factor, perhaps vitamin D proper; another is a separate component producing calcification. The two effects, antirachitic and toxic, can be separated; or at least one can be destroyed while the other remains intact. If these observations prove to be correct, they may lead to a desirable purification of viosterol so as to eliminate or diminish the "toxic" features of its action.—*Journal of the American Medical Association,* November 22, 1930, p. 1593.

More Misbranded Nostrums.—The following products have been the subject of prosecution by the Food and Drug Administration of the United States Department of Agriculture which enforces the Federal Food and Drugs Act. Knewitz's Stopake Powders (G. Knewitz) capsules, each containing essentially three grains of acetanilid and six grains of aspirin. Mentho-Mustard (Mentho-Mustard Co.), an ointment containing small amounts of volatile oils including mustard oil, camphor, menthol, and wintergreen. Nos-I-Ons (The Nos-I-Ons Co.), consisting essentially of petrolatum, quinin sulphate, salicylic acid, camphor, and eucalyptol. Foley's Cold and Grippe Tablets (Foley & Co.), consisting essentially of acetanilid and cinchonin compound, red pepper, and an extract of a laxative plant drug. McLean's Tar Wine Cough Balm (Dr. J. H. McLean Medicine Co.), consisting essentially of small amounts of extracts of plant drugs, including licorice, wood tar, sugar, alcohol, and water. Pneumo-Phthysine (Pneumo-Phthysine Chemical Manufacturing Co.), essentially a clay poultice containing glycerin, creosote, small amounts of guaiacol, oil of wintergreen, containing formaldehyd and a quinin compound. (In April 1929, Pneumo-Phythysine became "Numotizine"). Williams' 101 Tonic (Interstate Drug Co.), consisting essentially of Epsom salts, quinin sulphate, ferric chlorid, and glycerin. Solomon Whitfield Smith's Venereal Medicine (S. W. Smith & Co.), consisting essentially of turpentine oil, copaiba, copper sulphate, alcohol, and water. Healing Ointment (Manhattan Drug Co.), an ointment having a petrolatum and wool-fat base, with zinc oxid, boric acid, phenol, sulphur, menthol and other volatile oils. Rapid Quinine Laxative Cold Tablets (G. P. Steyh Importing Co.), containing acetanilid, chalk, baking soda, milk sugar, extracts of plant drugs, including a laxative drug, and a small amount of alkaloids, but no quinin. Vapomentha Salve (Rox Chemical Co.), consisting essentially of petrolatum with turpentine oil and volatile oils, including camphor, menthol and eucalyptus. Case's Antiseptic Ointment (The Case Manufacturing Co.), consisting essentially of a tallow base, containing small amounts of phenol and volatile oils, including camphor and sassafras oil.—*Journal of the American Medical Association,* November 22, 1930, p. 1606.

The Etiology of Ginger Paralysis.—Within the past year a peculiar form of paralysis has afflicted many persons, particularly throughout the midwestern or

(Continued on Next Page)

The Oaks Sanitarium *Los Gatos, California*

A Moderately Priced Institution for the Scientific Treatment of Tuberculosis

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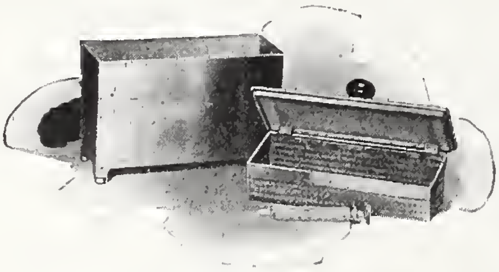

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TRUTH ABOUT MEDICINES

(Continued from Preceding Page)

southwestern states. Evidence has accumulated that the malady is closely associated with the drinking of fluidextract of ginger. The latter has been sold extensively since the introduction of the Volstead Act, for beverage purposes, because of a ruling of the Prohibition Bureau to the effect that the official fluidextract of ginger is a nonpotable beverage, thus removing the restriction from its sale. It was concluded from the evidence that an adulterated and poisoned product was being circulated last winter. An investigation was undertaken by the United States Public Health Service and this has shown that the paralysis was caused by tricresyl phosphate present in some fluidextracts of ginger as an adulterant.—*Journal of the American Medical Association,* November 29, 1930, p. 1672.

Some Miscellaneous "Specialists."—Three schemes have recently been worked, on the profession and the public, respectively. Each was operated by a physician: Dr. F. J. James, Paris, Illinois, circularized physicians offering three outstanding prescriptions: No. 1 for renal dropsy; No. 2 for acid stomach and fermentation and No. 3 an "absolute specific" for acne. Dr. John W. Nelson, Jamestown, New York, circularized laymen under the name "A. E. Daley," offering to sell for $16 sexual advice and instruction and "facts of great importance" found as a result of an "intensive study of the anatomy and function of our sexual organs." Dr. B. J. Cline, Poplar Bluff, Missouri, offered to sell prescriptions: One "abso-

(Continued on Page 47)

·MARCH·APRIL·
·MAY·
HAY-FEVER

1931

A New Pamphlet
discussing
MARCH-APRIL-MAY
HAY FEVER
and showing the chief causative trees as done IN NATURAL COLORS

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1. Early Spring or Tree Hay Fever
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Not a Laxative

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For Medicinal, Industrial and Drinking Purposes

TRUTH ABOUT MEDICINES

(Continued from Page 44)

lutely controls whooping cough"; another for acute or chronic poison ivy inflammation; a third for sciatica; a fourth is an enema for the treatment of pneumonia; a fifth is for hay fever, and a sixth is for venereal warts. Such incidents as these do not redound to the credit of the medical profession.—*Journal of the American Medical Association,* November 29, 1930, p. 1688.

Disulphamin (American Bio-Chemical Laboratories, Inc.).—According to an advertising circular, Disulphamin is chemically "Amino-Orto-Benzoil-di-Sulpho-Nucleo-Formin-Sodium-Bicamphorated." According to another circular it is chemically "orto-oxibenzoyl-sulphon-nucleino-formol-sodium-tetradimethylamino-antipyrin-bicamphorated." These designations are meaningless to chemists. They resemble other instances of pseudoscientific terminology wherein names of a chemical group, appearing as part of the name of this or that ingredient, are strung along to form an impressive sounding designation. Good evidence should be supplied to show that one or the other designation applies to the product marketed as Disulphamin before this product is given serious consideration by physicians.—*Journal of the American Medical Association,* November 29, 1930, p. 1689.

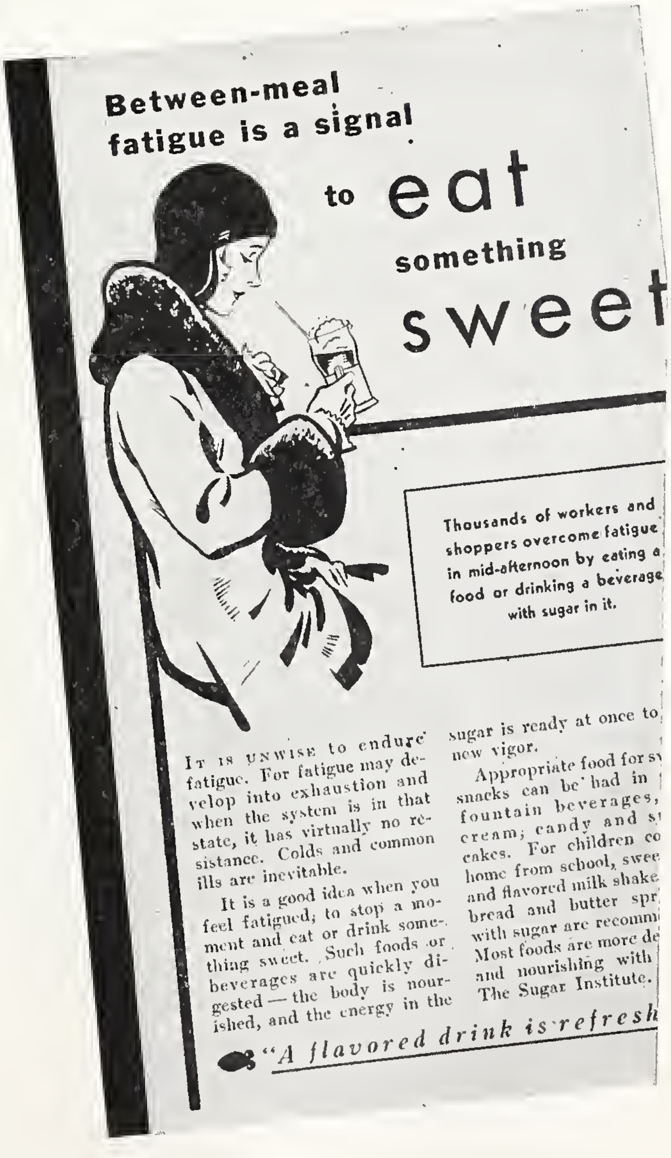
Intoxicating Effect of Acetylsalicylic Acid and Coca Cola.—A physician reports that young people in his community are using from fifteen to twenty grains of acetylsalicylic acid (aspirin) dissolved in the soft drink Coca Cola, as an intoxicating beverage. The effects are due chiefly to central depression caused by the acetylsalicylic acid fortified possibly by a direct central stimulant action of caffein and other constituents present in Coca Cola. The actions of acetylsalicylic acid are similar to those of small doses of alcohol, or of a weak alcoholic beverage or of the

(Continued on Next Page)

Here

is one of the advertisements of The Sugar Institute

THE advertisement reproduced here is one of the series appearing in newspapers throughout the country. In order to keep the statements in accord with modern medical practice, they have been submitted to and approved by some of the leading authorities in the field of human nutrition in the United States. The Sugar Institute, 129 Front St., New York.



Between-meal fatigue is a signal
to eat
something
sweet
Thousands of workers and shoppers overcome fatigue in mid-afternoon by eating a food or drinking a beverage with sugar in it.

IT IS UNWISE to endure fatigue. For fatigue may develop into exhaustion and when the system is in that state, it has virtually no resistance. Colds and common ills are inevitable.

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cakes. For children co
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and flavored milk shake
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and nourishing with
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. . . whenever milk is an important part of the diet

Cocomalt not only renders it more palatable but increases its food value over 70%

COCOMALT is a delicious, high-caloric food—ideal for convalescents, expectant and nursing mothers and undernourished children.

Not only does Cocomalt make milk a tempting chocolate flavor drink; *it actually increases its food value* 70%—adding 46% more protein, 56% more mineral salts (Lime and Phosphorus), 188% more carbohydrates.

Laboratory tests show that Cocomalt contains Vitamins A, B complex and D. Vitamin D is present in sufficient quantity to make a definite contribution to the anti-rachitic potency of the child's diet.

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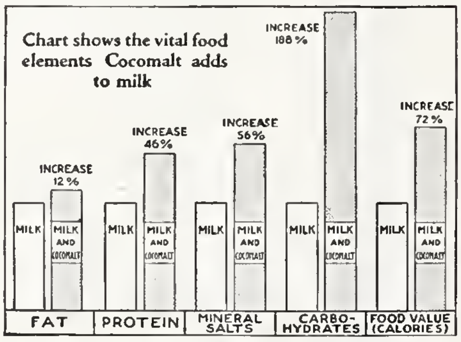

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Cocomalt
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Please send me, without charge, a trial can of Cocomalt.
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Address ....
City .... *State* ....

TRUTH ABOUT MEDICINES

(Continued from Preceding Page)

barbitals or bromids. When acetylsalicylic acid is taken with a beverage like Coca Cola, advertised for its exhilarating effects, which may be caused by a direct central stimulation by caffein or other constituents of the latter, it is easy to see how the effects of one can be fortified by the other. The continued use of such a medicated beverage may result in undesirable effects of the same general nature as those of narcotic habituation. Here is a most insidious evil, the reinforcement of a popular and highly advertised beverage by a well advertised drug, both long suspected of dangerous tendencies.—*Journal of the American Medical Association,* November 1, 1930, p. 1366.

Sodium 2-Oxo-5-Iodo-Pyridine-N-Acetate (Introduced as Uroselectan).—The Council on Pharmacy and Chemistry publishes a preliminary report on sodium 2-oxo-5-iodo-pyridine-N-acetate (also designated as sodium-5-iodo-2-pyridon-N-acetate) a new substance for use in the radiographic visualization of the urinary tract which was introduced under the name "Uroselectan." The Council reports that the product is a definite chemical sbstance which promises to be an advance in the radiographic visualization of the urinary tract, though its indications, advantages and limitations are at the present time not fully established. The Council considers the product suitable for experimental use by those who are versed in the technique of urologic examinations. It publishes a concise and carefully considered statement of the introduction of the drug and the evidence for its use, prepared for the Council by Doctors Braasch and Bumpus.—*Jonrnal of the American Medical Association,* November 8, 1930, p. 1425.

Avertin.—The Council on Pharmacy and Chemistry reports that Avertin was submitted for consideration in February of this year; that it recognizes the fact that the product presents certain desirable properties, but that definite action concerning its recognition is postponed pending investigation of certain of its side actions now being conducted. For the information of the medical profession the Council submits a report concerning the present status of the drug. Avertin is tribromethanol. It was introduced in Germany in 1926, to be used alone for rectal anesthesia, or to be supplemented by other narcotics, including morphin and ether. Later Avertin was offered in a solution, one cubic centimeter of which contains one gram of Avertain dissolved in amylene hydrate (tertiary amyl alcohol). This solution has been the subject of several hundred reports. After reviewing the reported advantages and disadvantages the Council concludes: though the present evidence indicates that Avertin may prove valuable as a means of initiating narcosis but not for complete narcosis, the Council decided not to admit the drug to New and Nonofficial Remedies.—*Journal of the American Medical Association,* November 8, 1930, p. 1427.

Nonvolatile Substances as Anesthetics.—The Council on Pharmacy and Chemistry has accepted a barbital derivative for oral and rectal use as a preliminary to surgical anesthesia. Experimentally this product has also been administered intravenously, but such use is far from safe and the manufacturer is not marketing the product for intravenous use. Now the Council publishes a preliminary report on Avertin which substance has been proposed not only for initiating anesthesia, but also as the chief means of inducing unconsciousness, to be supplemented when necessary by a small amount of an inhalation or local anesthetic. The Council concludes that Avertin may prove valuable as a means of initiating narcosis, but that it is not proved to be a safe agent for complete narcosis, either by itself or combined with a volatile anesthetic. These two products illustrate a modern tendency in anesthetics. A paper by Lendle seems to show that neither Avertin nor the barbital derivative "Pernocton" is a satisfactory solution of the problem. The products so far proposed for so-called

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THE “Thermotax” Diathermy apparatus offers a practical and economical means of producing general body temperatures for this new type therapy.

In a series of practical competitive tests the “Thermotax” proved its ability to produce and maintain, fevers of 103 to 106 degrees Fahrenheit, over periods of hours.

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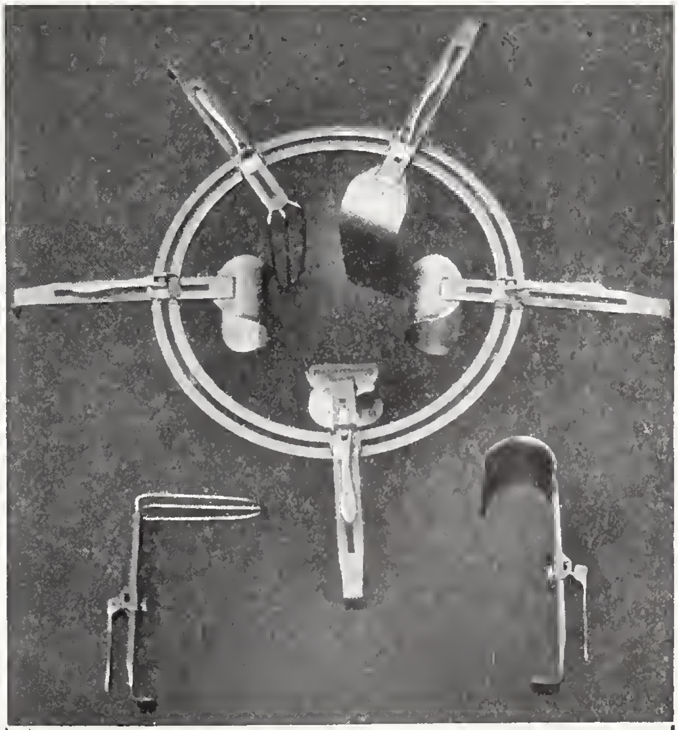
basal anesthesia are hypnotics or sedatives and should be used as such. They cannot be safely used for complete anesthesia and can be safely used in combination with other agents for the production of complete anesthesia only by those thoroughly experienced in the administration of anesthetics and closely familiar with the studies of the use of nonvolatile agents for anesthesia. Thus far their intravenous use must be considered unsafe.—*Journal of the American Medical Association,* November 8, 1930, p. 1430.

More Misbranded Nostrums.—The following products have been the subject of prosecution by the Food and Drug Administration of the United States Department of Agriculture, which enforces the Federal Food and Drugs Act: Old Mission Laxative Cold Tablets (The S. Pfeiffer Manufacturing Co.), containing chiefly acetanilid, a cinchonin compound, extracts of laxative plant drugs, terpin hydrate, oil of wintergreen, and a small amount of potassium bromid. A. D. S. Cold and Grippe Tablets (Vadsco Sales Corporation, containing acetanilid, quinin sulphate, aloin, camphor, red pepper, and extract of podophyllum. Astyptodyne and Astyptodyne Cough Syrup (Astyptodyne Chemical Co.), the first consisting of pine oil and the second of sugar syrup and two per cent of pine oil. Nip-A-Co Capsules (Frederick Stearns & Co.), containing essentially acetanilid, cinchonin sulphate, magnesium carbonate, red pepper, extracts of plant drugs, including podophyllum and jalap, traces of salicylic acid and alkaloids of aconite. Pronto (The National Drug Products, Inc.), consisting essentially of ammonium salicylate, glycerin, small amounts of potassium, antimony and free ammonia, traces of magnesium, chlorids and sulphates, and an extract of a laxative plant drug.—*Journal of the American Medical Association,* November 8, 1930, p. 1444.

Sanovapor, Another Cure-All—All of the Liquozone Type.—Sanovapor Laboratories, Inc., of Huntington, West Virginia, put out a nostrum, Sanovapor,

(Continued on Page 51)



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TRUTH ABOUT MEDICINES

(Continued from Page 49)

that was recommended for catarrh, colds, hay fever, asthma, and many other conditions, including halitosis. Sanovapor seems to have been especially pushed as a remedy for diabetes. Analysis in the American Medical Association Chemical Laboratory showed the preparation to consist essentially of a solution containing approximately 0.06 gram of sulphur dioxid and 0.17 gram of sulphuric acid, United States Pharmacopeia, in 100 cubic centimeters. It is evident that Sanovapor is of the same general character as Radam's Microbe Killer, Liquozone, Septicide, Oxytonic, Zymatoid, and Anti-Phymin.—*Journal of the American Medical Association*, November 1, 1930, p. 1365.

More Misbranded Nostrums.—The following products have been the subject of prosecution by the Food, Drug, and Insecticide Administration of the United States Department of Agriculture which enforces the Federal Food and Drugs Act: Palatol (Parke, Davis & Company of New York City), consisting essentially of cod-liver oil, malt, wild cherry, phosphates, cholesterol, alcohol, sugar and water. Halanum (The Radium Research Foundation), containing no radium and being in fact essentially a weak solution of common salt in water. Eleven Bros. Tonic (Eleven Bros. Laboratories, Inc.), consisting essentially of Epsom salt, iron chlorid, alcohol and water, flavored with peppermint. Phenyo-Caffein (The Phenyo-Caffein Company), consisting essentially of acetanilid, caffein, and camphor. Fenholloway Sulphur Springs Water (A. E. Jackson), containing a filthy animal and vegetable substance. Bel-Caps (W. E. Shuit), containing ammonium, iron and calcium compounds, sulphates, carbonates, chlorids, bro-

(Continued on Page 53)

APPROVED CLINICAL LABORATORIES

Excerpts from American Medical Association Essentials for an Approved Clinical Laboratory

DEFINITION

" * * A clinical pathologic laboratory is an institution organized for the practical application of one or more of the fundamental sciences by the use of specialized apparatus, equipment and methods, for for the purpose of ascertaining the presence, nature, source and progress of disease in the human body."*

"Only those clinical laboratories in which the space, equipment, finances, management, personnel and records are such as will insure honest, efficient and accurate work may expect to be listed as approved."

"The housing and equipment should be sufficient to permit all essential technical procedures to be properly carried out."

THE DIRECTOR

"The director of an approved clinical laboratory should be a graduate of an acceptable college or university of recognized standing, indicating proper educational attainments. He shall have specialized in clinical pathology, bacteriology, pathology, chemistry or other allied subjects, for at least three years. He must be a man of good standing in his profession."

"The director shall be on full time, or have definite hours of attendance, devoting the major part of his time to the supervision of the laboratory work."

"The director may make diagnoses only when he is a licensed graduate of medicine, has specialized in clinical pathology for at least three years, is reasonably familiar with the manifestation of disease in the patient, and knows laboratory work sufficiently well to direct and supervise reports."

"The director may have assistants, responsible to him. All their reports. bacteriologic, hematologic, biochemical, serologic and pathologic should be made to the director."

RECORDS

"Indexed records of all examinations should be kept. Every specimen submitted to the laboratory should have appended pertinent clinical data."

PUBLICITY

"Publicity of an approved laboratory should be directed only to physicians either through bulletins or through recognized technical journals, and should be limited to statements of fact, as the name, address, telephone number, names and titles of the director, and other responsible personnel, fields of work covered, office hours, directions for sending specimens, etc., and should not contain misleading statements. Only the names of those rendering regular service to the laboratory should appear on letterheads or other form of publicity."

FEES

" * * There should be no dividing of fees or rebating between the laboratory or its director and any physician, corporate body or group. * * *"*

The following laboratories in California are among those approved by the Council on Medical Education and Hospitals of the American Medical Association:

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Dr. Marion H. Lippman's Laboratory, Butler Building, 135 Stockton Street, San Francisco.

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These laboratories use only standard methods and are fully equipped with the most modern apparatus to make all clinical examinations of value in: Pathology (frozen sections when ordered), Bacteriology, Chemistry, Hematology, Serology, Medico-legal, Basal metabolism, Blood chemistry, Autogenous vaccines and all other laboratory aids in diagnosis.

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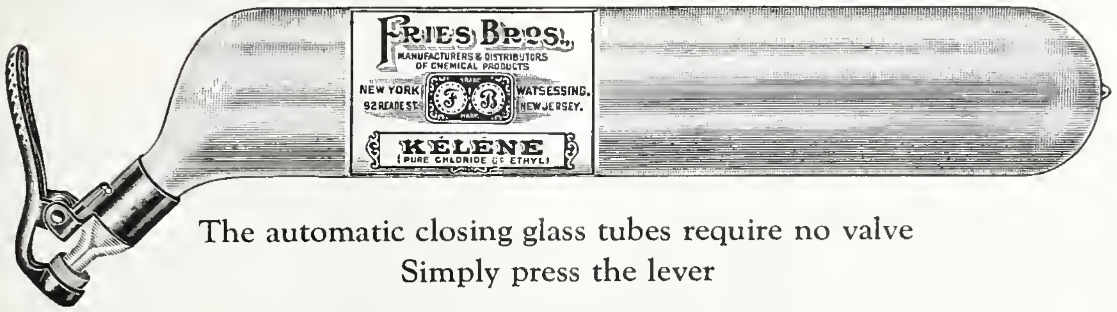

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TRUTH ABOUT MEDICINES

(Continued from Page 51)

mids, camphor, aloin, small amounts of alkaloids and plant extractives, including a laxative drug. EfeDron Hart Nasal Jelly (The Hart Drug Corporation), consisting essentially of a mucilaginous mass containing ephedrin hydrochlorid, chloretone, carbolic acid, salt and water, flavored with oil of cinnamon. Crane's Laxative Quinine Cold Tablets (The Crane Medicine Company), each tablet containing eight-tenths grain of acetanilid with quinin and cinchonin salts and a laxative plant drug. Bromolin (The Senoret Chemical Company), consisting of coated tablets containing acetanilid, cinchonin sulphate, and resinous plant material. Grip-Sules (Kingsbury and Frick), capsules containing about one and one-half grains of acetanilid, about one-third grain of caffein, a quinin compound and a pungent drug, such as red pepper. Numoss (The C. R. Products Company), consisting of ammonium chlorid, creosote and Irish moss, flavored with oil of anise. Hogan's Old Reliable Cough Syrup (Hogan's Old Reliable Cough Drops, Inc.), consisting essentially of ammonium chlorid, red pepper, chloroform, extracts of plant drugs, including licorice, squill, wild cherry and senega, with alcohol, sugar and water, and flavored with oil of anise.—*Journal of the American Medical Association,* September 27, 1930, p. 951.

Three Hundred Years of the Cinchonas in Medicine.—The exact date of the introduction of the use of cinchona bark into medicine is somewhat uncertain. Its introduction into medicine dates from about 1630. In 1630 Juan Lopez Canizares was the first to demonstrate the use of the bark of the cinchona tree in the treatment of malaria. Quinin itself was isolated more than a century ago by Caventon and Pelletier. Quinin is commonly described as a protoplasmic poison, and it is alleged to produce its effects in the

(Continued on Next Page)

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TRUTH ABOUT MEDICINES

(Continued from Preceding Page)

body because of this property; the action being strongest on undifferentiated protoplasm. The comparative safety in the use of the drug is indicated by the fact that fatalities from its use have been exceedingly few. The excelling virtues of the alkaloid in modern medicine remains in its selective toxicity to undifferentiated protoplasm, notably to the plasmodia of malaria. Quinin is part of the "standard" treatment of malaria. Osler said many years ago that the physician who at this day cannot treat malarial fever successfully with quinin should abandon the practice of medicine.—*Journal of the American Medical Association,* November 1, 1930, p. 1350.

More Misbranded Nostrums.—The following products have been the subject of prosecution by the Food and Drug Administration of the United States Department of Agriculture which enforces the Federal Food and Drugs Act: Michael's Cold Tablets (C. P. Products Company), containing, essentially, acetanilid, sugar, talc, red pepper and a small amount of the laxative, phenolphthalein. Mosso's Oil of Salt (C. A. Mosso Laboratories), consisting essentially of linseed oil, oil of turpentine, camphor, and phenol. Nozeline (Nozeline Laboratory), consisting essentially of mineral oil, containing about two per cent of volatile matter, including eucalyptol, oil of pine, menthol, and camphor. Laxacold (Nyal Company), containing acetanilid, alkaloids of aconite and of cinchona, extracts of plant drugs, including podophyllum and jalap, with camphor, red pepper, sulphates, and a small amount of salicylates. Nyal Cold Capsules (Nyal Company), containing acetanilid, chalk, cinchonin sulphate, and small amounts of red pepper, camphor, podophyllin, and the alkaloids of aconite. Diemer's Laxative Grip and Cold Tablets (Sta-Wel Remedy Company), containing acetanilid, baking soda, red pepper, and some laxative drugs. Reno's

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Albutesta—A Proprietary Reagent.—The American Medical Association Chemical Laboratory reports that Albutesta is a coined name for a chemical reagent to detect albumin in urine. The makers of this product, Menley and James of London, England, and also of New York, have been noted in the past for unscientific proprietaries. One of these is "Iodex" for which the firm has claimed that it contained five per cent of free iodin, although the American Medical Association Chemical Laboratory showed: first, that the product did not contain iodin in the free form but in the combined form, and second, that there was less than five per cent of total iodin present. The laboratory later analyzed the companion proprietary "Liquid Iodex," which was claimed to be a nonirritant preparation of iodin and to contain "free iodin," and found it to contain only about 0.16 per cent free odin and about three-fifths of the total iodin claimed. The laboratory found "Albutesta" to be nothing more than a solution of sulphosalicylic acid, a substance well known as a clinical reagent for albumin. The laboratory points out that, while "Albutesta" sells for one dollar, the cost of the ingredients of one ounce of such a solution is about five cents. Since the identity of "Albutesta" is not declared by Menley and James, the laboratory reminds us that it is almost axiomatic that an analyst must know the composition or definite attributes of reagents he is using if he expects to be at all scientific.—*Journal of the American Medical Association,* November 1, 1930, p. 1347.

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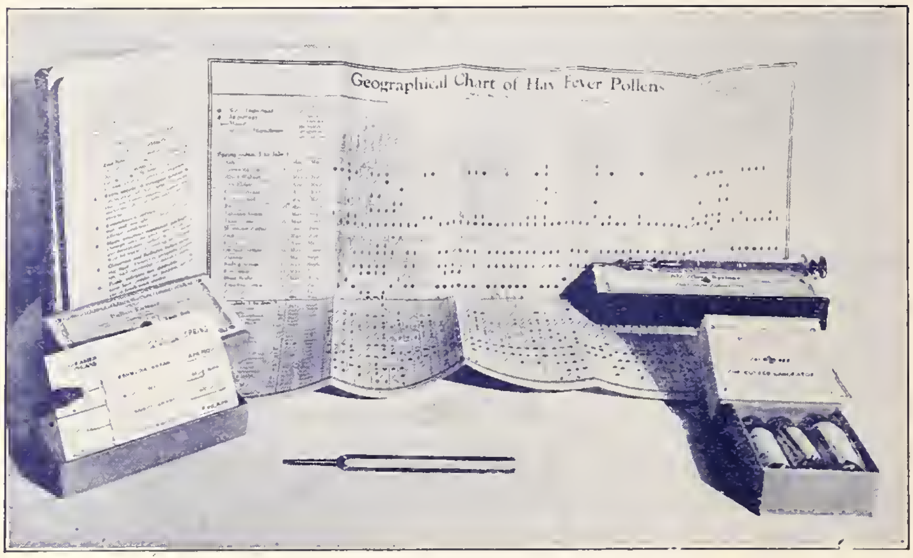

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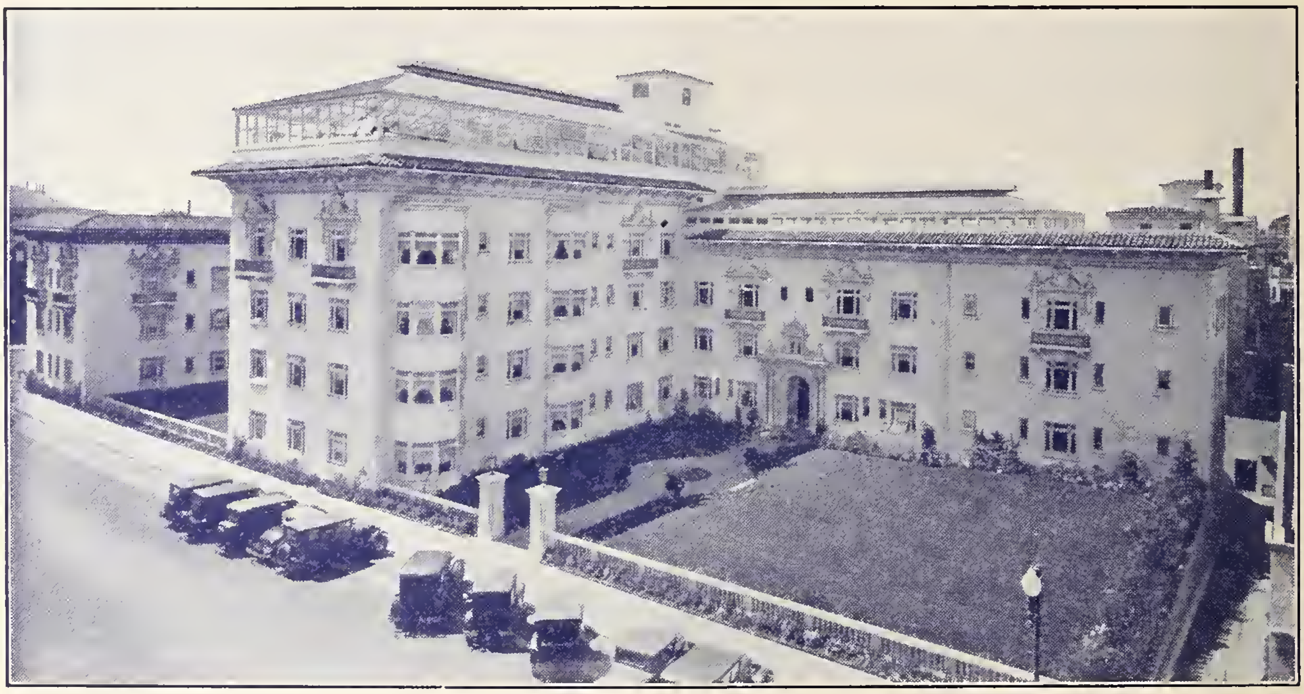

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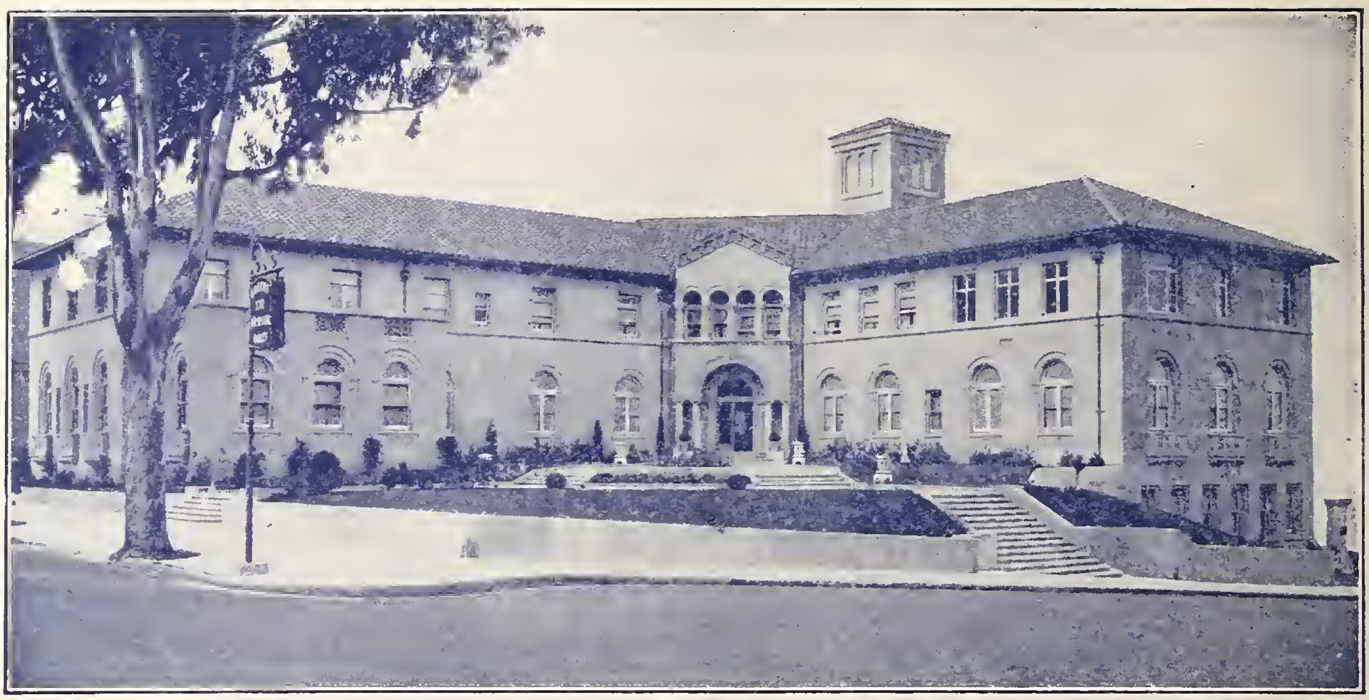

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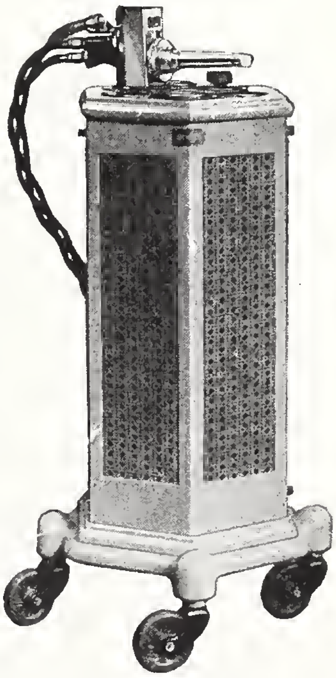

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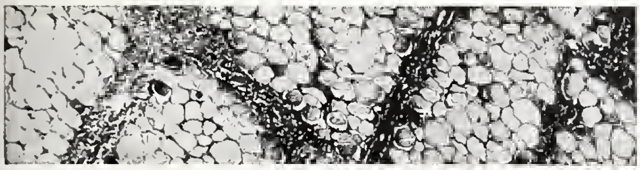

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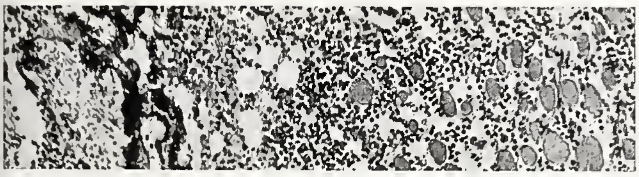

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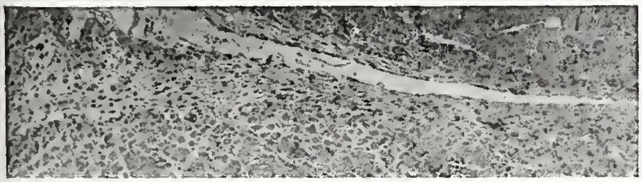

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BOOK REVIEWS

List of Books Received

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A Handbook on Diseases of Children. Including Dietetics and the Common Fevers. By Bruce Williamson, M. D., Edinburgh, M. R. C. P. London, Physician to the Royal Northern Hospital, London. Leather. Pp. 290, illustrated. Price, $3.50 net. New York: William Wood & Company, 1931.

Textbook of Human Embryology. By Cleveland Sylvester Simkins, Ph. D., Associate Professor of Anatomy, University of Tennessee Medical School, Memphis, Tennessee. Cloth. Pp. 469, with 263 illustrations, some in colors. Price, $4.50 net. Philadelphia: F. A. Davis Company, 1931.

A Textbook of Laboratory Diagnosis. With Clinical Applications for Practitioners and Students. By Edwin E. Osgood, M. A., M. D., Assistant Professor of Medicine and Biochemistry, Director of Laboratories, University of Oregon, School of Medicine, Portland, Oregon, and Howard D. Haskins, M. D., Professor of Biochemistry, University of Oregon, School of Medicine, Portland, Oregon. Cloth. Pp. 475, with twenty-one figures in the text and six colored plates. Price, $5.00 net. Philadelphia: P. Blakiston's Son & Co., Inc., 1931.

Threatening Shadows. By Victor Vecki. Cloth. Pp. 262. Price, $2.50. Boston: The Stratford Company, 1931.

Selections from the Papers and Speeches of John Chalmers DaCosta, M. D.. LL. D., Samuel D. Gross, Professor of Surgery, Jefferson Medical College, Philadelphia, Pa. Cloth. Pp. 440. Price, $6.50. Philadelphia and London: W. B. Saunders Company, 1931.

Die Technik des Ungepolsterten Gipsverbandes. Von Dr. Fritz Schnek, Oberartz des Unfallkrankenhauses, Wien. Mit einem Geleitwort . von Dozent Dr. Lorenz Bohler, Leiter des Unfallkrankenhauses in Wien. Mit 169 Abbildungen. Wien: Verlag von Wilhelm Maudrich, 1931.

Roentgen Interpretation. A Manual for Students and Practitioners. By George W. Holmes, M. D., Roentgenologist to the Massachusetts General Hospital and Assistant Professor of Roengenology, Harvard Medical School, and Howard E. Ruggles, M. D., Roentgenologist to the University of California Hospital and Clinical Professor of Roentgenology, University of California Medical School. Fourth Edition, Thoroughly Revised. Cloth. Pp. 339, illustrated with 237 engravings. Price, $5.00. Philadelphia: Lea & Febiger, 1931.

A Textbook of Surgery. By John Homans, M. D., Assistant Professor of Surgery. Compiled from Lectures and Other Writings of Members of the Surgical Department of the Harvard Medical School. With a Special Bibiographical Index and with Illustrations by Willard C. Shepard. Cloth. Pp. 1195. Price, $9.00. Springfield: Charles C. Thomas, 1931.

BOOK REVIEWS

Clinical Allergy, Particularly Asthma and Hay Fever, Mechanism and Treatment. By Frank M. Rackemann. Pp. 617. The Macmillan Company, 1931. Price, $10.50.

This monograph on clinical allergy by Doctor Rackemann is not just another book on a gradually unfolding

(Continued on Page 14)

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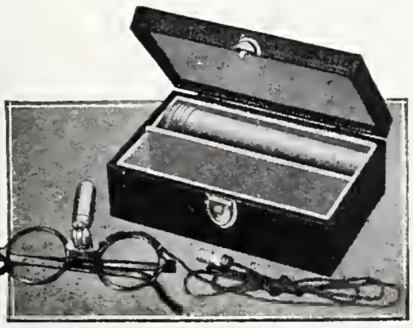

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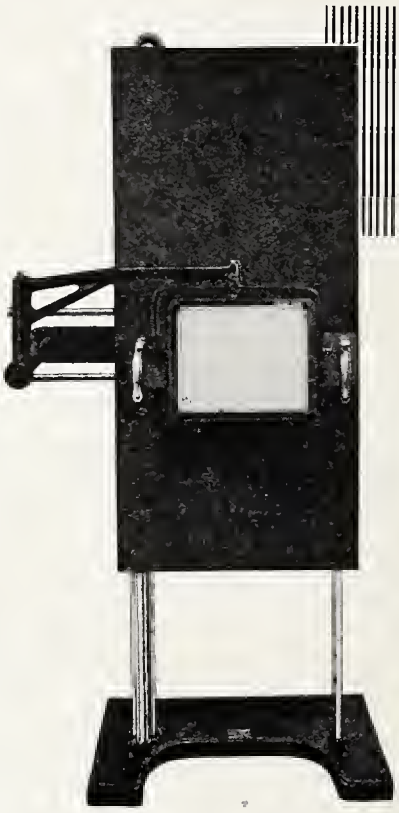

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BOOK REVIEWS

(Continued from Page 11)

subject. In the opinion of the reviewer it is the most comprehensive presentation of the underlying principles and present-day viewpoints of allergic diseases in the English language. As one would expect in a field in which many moot problems still exist, the conclusions arrived at are not final, but present the experience of the author and those associated with him in the work at the Massachusetts General Hospital.

That part of the monograph dealing with the phenomenon of hypersensitiveness is new in an English work on clinical allergy. Presented in a clear manner by the author, who has himself added much to the fundamentals of this subject, it should serve to emphasize, not only to general physicians but to allergists as well that much of our present-day treatment of allergic disease is dependent upon knowledge gained from animal experiment. Particularly happy is the viewpoint of the author, somewhat at variance with certain immunologists in this country, that the differences between clinical allergy and experimental anaphylaxis are more apparent than real. The reviewer is himself a great exponent of this viewpoint and feels strongly that many of the fundamental problems of the mechanism of allergy which still await solution will be solved by animal experiment and not by clinical investigation.

The clinical chapters on hay fever and asthma will appeal particularly to internists intensifying in this field. In addition to a detailed discussion of the patient whose hay fever and asthma is dependent upon some form of hypersensitiveness, Doctor Rackemann discusses in great detail the bacterial forms of asthma and hay fever and the value of specific and nonspecific therapy. The recognition that infection is a great stumbling block in the treatment of the hypersensitive patient is well brought out in Doctor Rackemann's chapters. This viewpoint is quite in contrast with that of many overenthusiastic allergists who, in spite of the wide recognition which this form of asthma is receiving from many workers, continue to disregard infection as an important etiological factor.

The appendix of the monograph is unique. It contains an alphabetical list of all allergens except pollens known to be causative factors in the hypersensitive patient, and also lists the patent medicines used in asthma and hay fever. The latter should be of value as a means of ready

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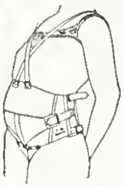
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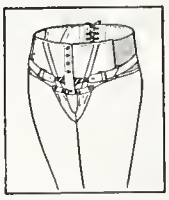
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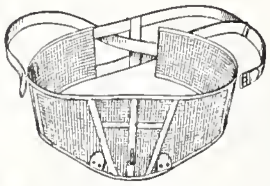
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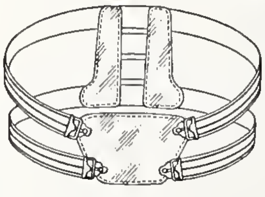
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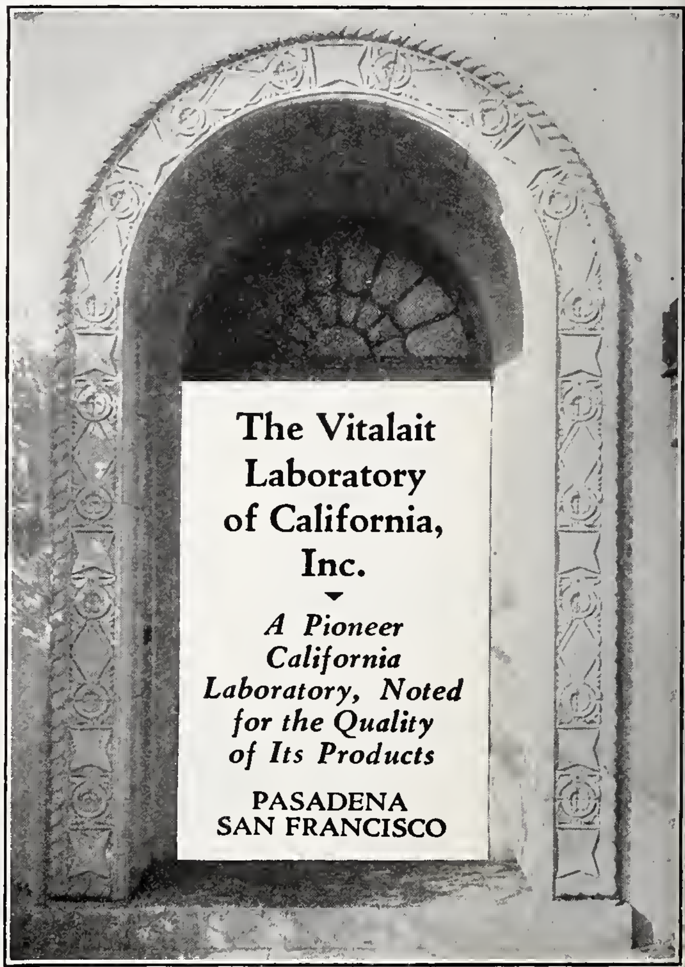
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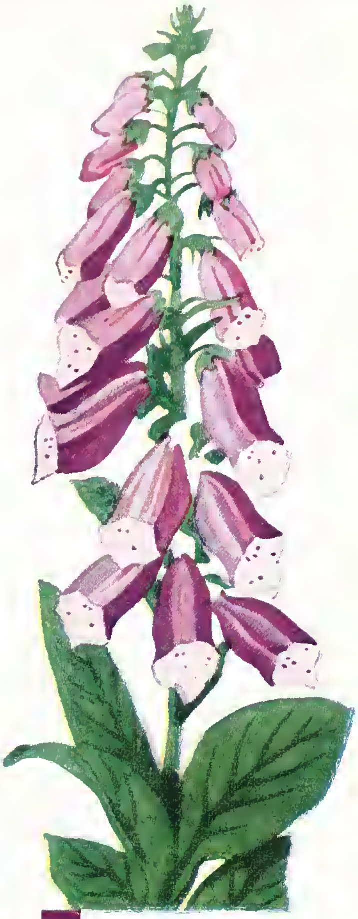

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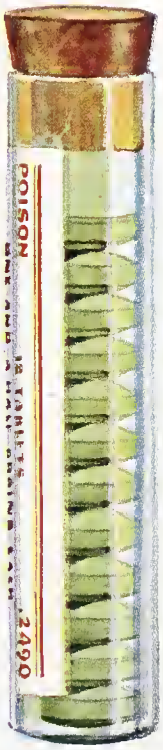

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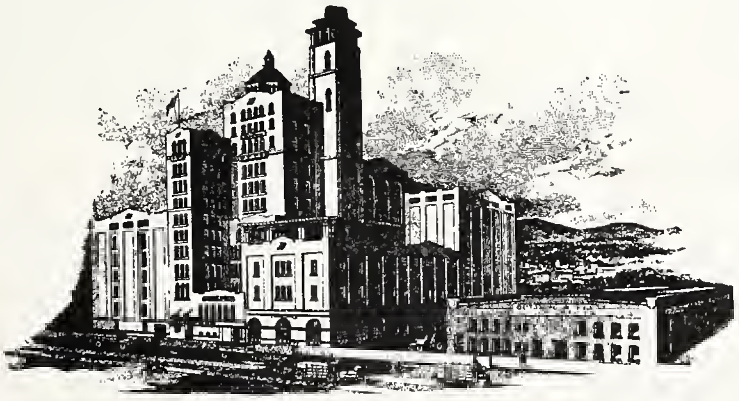

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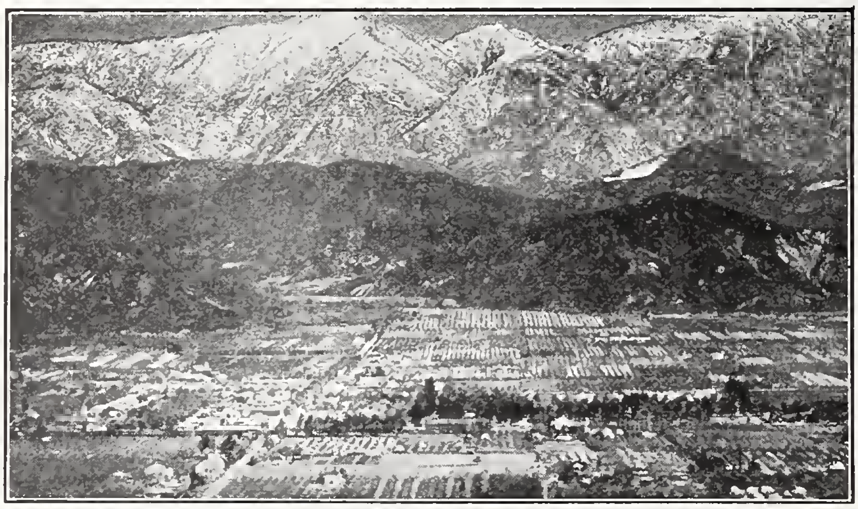

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BOOK REVIEWS

(Continued from Page 14)

orientation when a patient mentions the name of some remedy that he is using with which the physician may be unfamiliar.

S. H. H.

Diseases of the Skin, a Textbook for Practitioners and Students. By George Clinton Andrews. Pp. 1091. Illustrated. Philadelphia and London, W. B. Saunders Company, 1930. Price, $12.00.

Different books, when well balanced and complete, as this one proves to be, will always find a welcome in dermatological literature.

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Adequate bibliography may be found at the end of each chapter.

Dr. Andrews has produced an excellent book, singularly complete and practical, which should prove useful to the student and medical profession.

S. C. W.

A Textbook of Gynecology. By Arthur Hale Curtis. Pp. 380. Illustrated. Philadelphia and London: W. B. Saunders Company, 1930. Price, $5.00.

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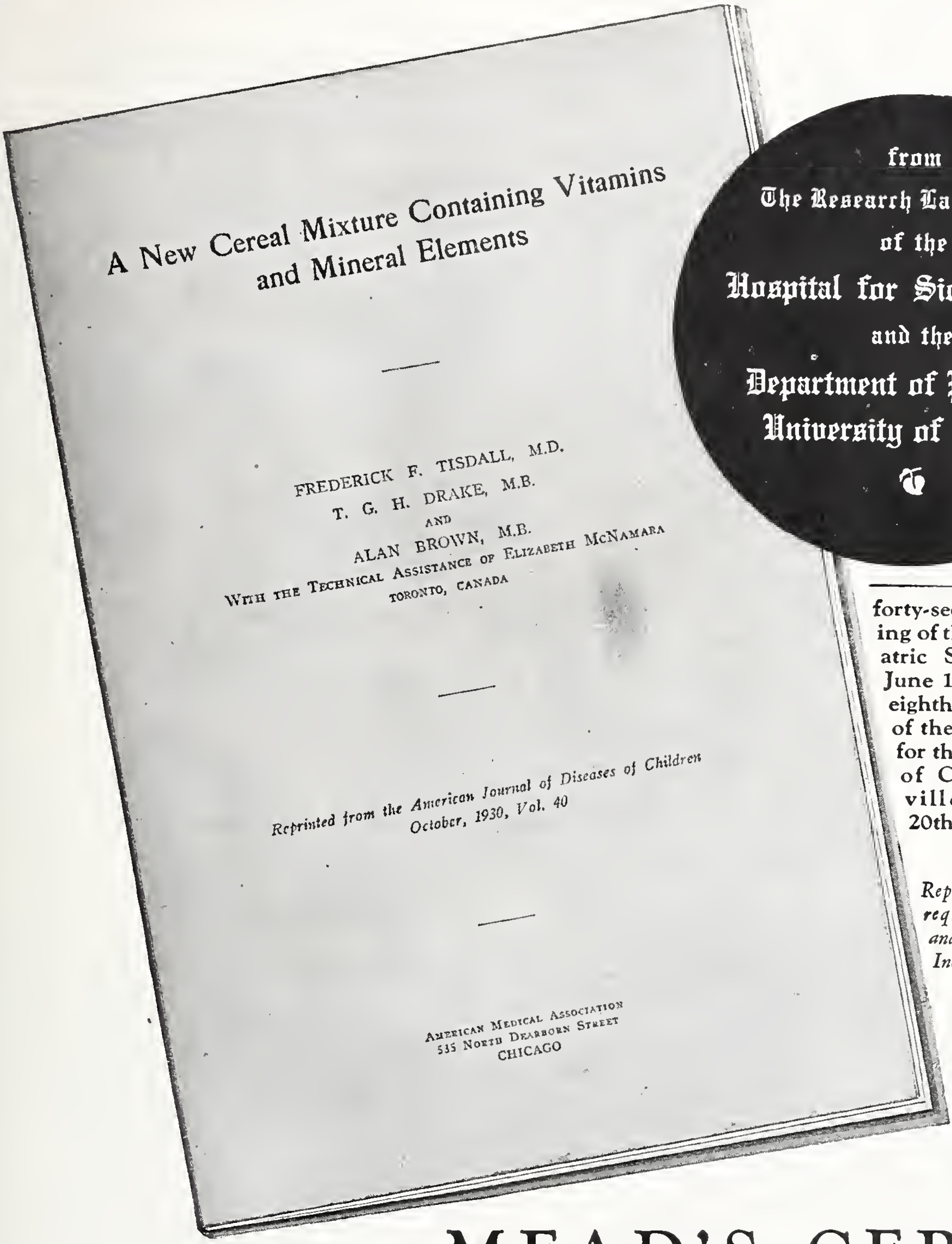

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BOOK REVIEWS

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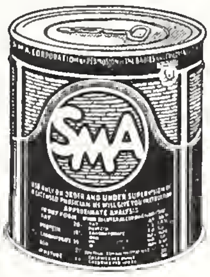

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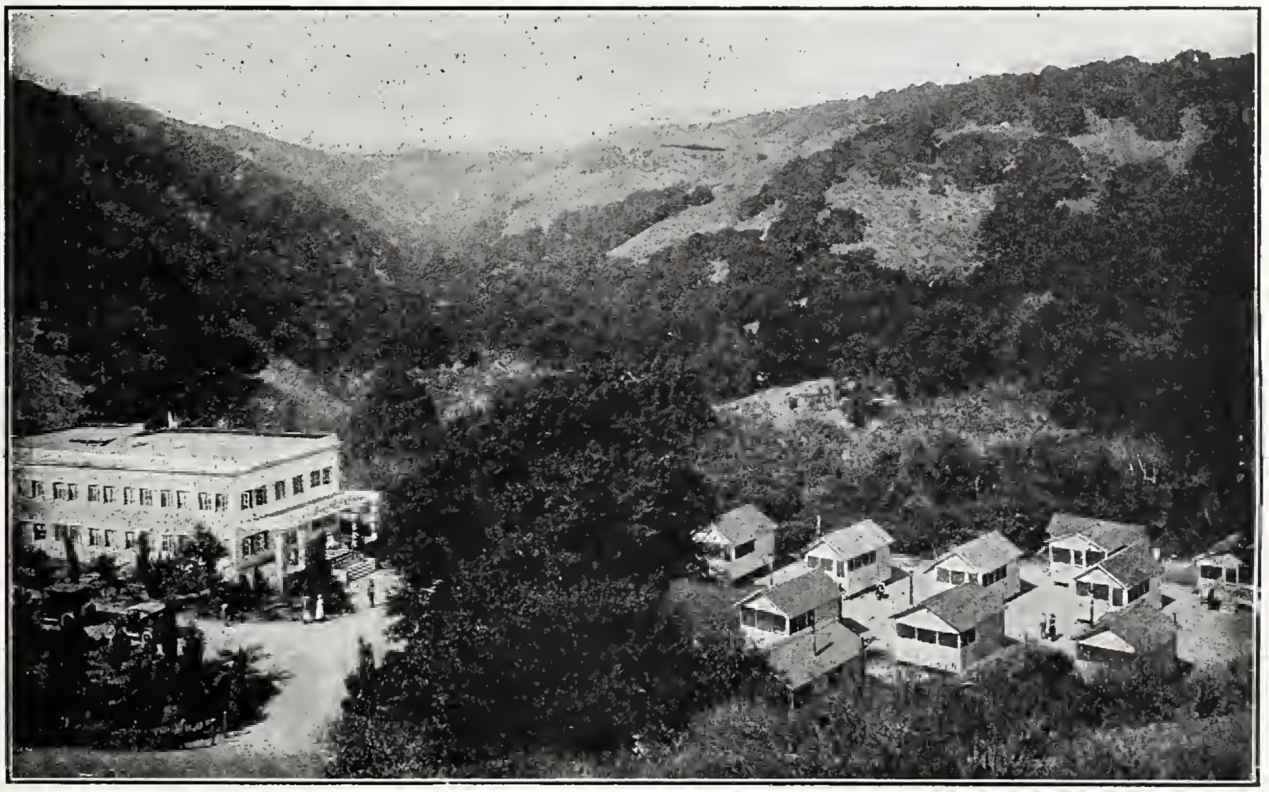

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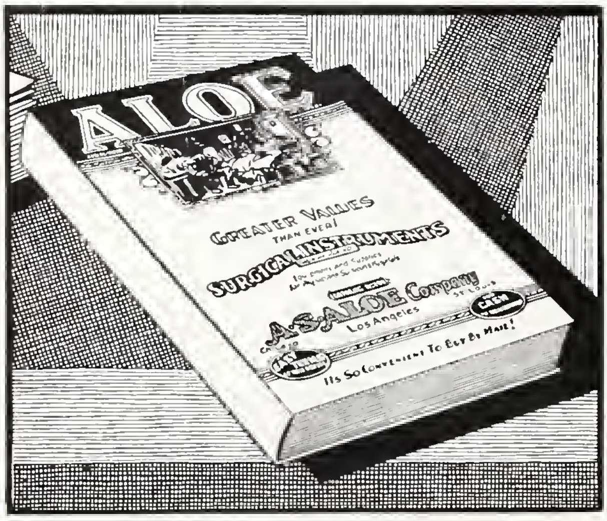

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TRUTH ABOUT MEDICINES

(Continued from Page 20)

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Marine Liver Extract (White).—A liver extract representing the water soluble fraction obtained from the livers of fish of the Gadus family in a glycerol-water solution. One hundred cubic centimeters represents fresh liver, 3027 grams (one fluidounce represents two pounds avoirdupois). Controlled clinical observations show that in pernicious anemia rapid improvement may be expected following the administration of marine liver extract (White). Health Products Corporation, Newark, New Jersey.

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Pariogen Tablets.—There has grown up, during the past four or five years, a huge business in the sale of antiseptics and germicides, real or alleged, that are frankly purchased, if not obviously sold, for contraceptive purposes. The term "contraceptive" is not used in the advertisements; "feminine hygiene" takes its place. "Pariogen Tablets," marketed by American Drug and Chemical Company of Minneapolis, have been advertised as the "new mode of personal hygiene." An advertisement stated "Pariogen Tablets may be carried anywhere in a purse, making hygienic measures possible almost anywhere, no other accessories or water being required." The advertising has stressed that the tablets are nonpoisonous, but do not declare the composition of the tablets. Some six years ago a reading notice appeared in a medical journal from which it appears that the tablets are essentially tablets of chloramin, U. S. P. By selling these under a proprietary name as a nostrum of essentially secret composition, the company is able to get a price that is out of all proportion to the value of its product.—*Journal of the American Medical Association,* February 7, 1931, p. 458.

Death from Explosion of Mixture of Anesthetic Gases.—It has been two years since, at Evansville, Indiana, a tank containing nitrous oxid exploded, killing an anesthetist. Last month a patient died on the

(Continued on Page 25)

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TRUTH ABOUT MEDICINES

(Continued from Page 23)

operating table in Los Angeles because of the explosion of an anesthetic mixture. Yet the hazard from an explosion of anesthetics is probably less than that of fatally persistent hiccough. It has been pointed out that surgeons and anesthetists need far more to utilize means to prevent postoperative pneumonia than to worry over the hazards of explosions, except, of course, explosions due to carelessness. In the case of the Los Angeles accident, the patient was given nitrous oxid and oxygen, followed by ether. It has been pointed out repeatedly that a mixture of these gases is explosive. Explosions recorded heretofore appear to have been due to sparks from discharges of static electricity. Various committees of the American Medical Association have reported on precautions that are to be taken toward the prevention of such accidents.—*Journal of the American Medical Association,* February 14, 1931, p. 530.

Brinkley's Broadcasting Station.—The Federal Radio Commission refused to renew the broadcasting license of station KFKB of Milford, Kansas, operated by John R. Brinkley, because it was operated mainly in the interest of Brinkley and his associates rather than in the interests of the public. Brinkley appealed the case to the courts, but this appeal has been denied.—*Journal of the American Medical Association,* February 14, 1931, p. 547.

Pertussis Vaccines Omitted from New and Nonofficial Remedies.—The Council on Pharmacy and Chemistry reports that pertussis bacillus vaccine was admitted to New and Nonofficial Remedies in 1914 on the basis of what appeared to be acceptable clinical evidence. In subsequent years, when vaccine therapy was at its height, pertussis bacillus vaccine was used extensively and yet critically controlled reports did not become available. In 1928 the Council voted to omit pertussis vaccines with the close of the longest period for which any one was accepted,

(Continued on Next Page)

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TRUTH ABOUT MEDICINES

(Continued from Preceding Page)

unless in the meantime acceptable evidence for its usefulness in the prevention or treatment of whooping cough became available. No acceptable confirmatory evidence having become available, the Council voted to confirm its decision to omit from New and Nonofficial Remedies all pertussis vaccines.—*Journal of the American Medical Association,* February 21, 1931, p. 613.

(Continued on Page 47)

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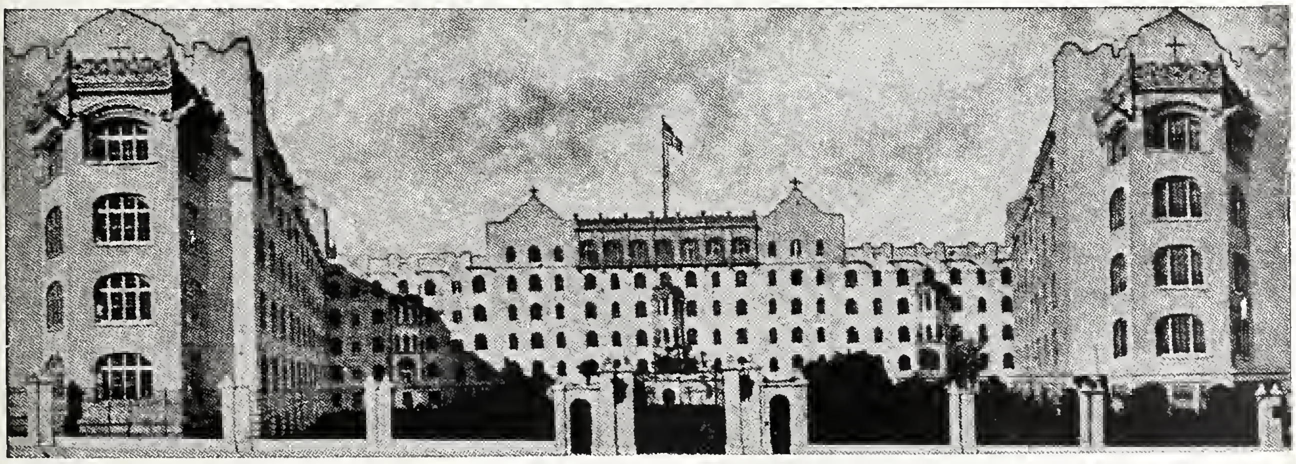

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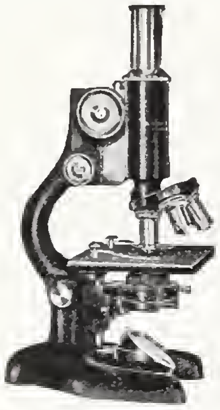

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VOLUME XXXIV APRIL, 1931 No. 4

A REVIEW OF THE SECONDARY ANEMIAS*

PART I*

By O. H. Perry Pepper, M. D.
Philadelphia, Pennsylvania

I WISH first to express my sincere appreciation of the honor done me by the invitation of the San Diego County Medical Society to deliver the annual Scripps Clinics and Lecture.

If it may be forgotten for a moment who tonight's lecturer happens to be, then I may say with perfect propriety that there is much value in such endowed lectureships. Much of the good which comes is, however, of a somewhat intangible nature and of a type difficult for anyone not trained in medicine or science to appreciate. This makes it all the more creditable to those from whose generosity such endowed lectureships have come. There is always benefit in exchange of ideas and in new contacts. Often one gains more at a medical convention from the informal chats in the corridors than from the presentations in the meeting hall. Always there is benefit for the speaker who visits a new group.

From still another impersonal angle an occasion such as this is inspiring in that it speaks for the unity of our profession from one end of our country to another. These larger aspects far overshadow any tangible asset of actual information which the speaker might be able to contribute.

Your committee has asked me to review the subject of secondary anemia. This I am glad to do even though it is a topic not very favorable for the new or the spectacular. But before discussing anemia—which concerns the red blood cells and their hemoglobin—let us review for a moment what is known about these two elements.

THE RED BLOOD CELLS

The erythrocyte, although one of the smallest cells in the body, ranks high in importance. Its function is the transport of hemoglobin to and fro between the lungs and the tissues for the carrying of oxygen. Incidentally the erythrocyte, with its content of hemoglobin, plays a part in the acid-base regulation of the body, and the cell shows some specific relations to the electrolytes of the blood. The chlorid anion passes freely to and from the erythrocyte, the potassium kation remains chiefly within the cell, the sodium outside it. For the efficient accomplishment of its functions the erythrocyte must possess certain characteristics; it must offer a wide surface area for diffusion, it must be able to pass through minute capillary spaces, it must be elastic to change its shape to suit its surroundings, and elastic also to permit of change of size with changes in its water content. Its surface membrane must permit the ready passage of oxygen and chlorids, it must refuse passage to certain bases. Its cytoplasm must hold the hemoglobin available for combination with oxygen and must allow the compensatory shifts which maintain the acid-base equilibrium as the hemoglobin shifts from its HbO_2 form to its less acid HbO.

All of these requirements are met by the erythrocyte. Its structure is a lipoid framework with the hemoglobin carried in a sort of hydrophilic gel. The erythrocyte contains less water than most cells, having only about 60 per cent of water while the hemoglobin forms about 30 per cent of the cell or, including its protein fraction, 40 per cent. Its shape offers the greatest surface and all parts are equally near the surface. Its shape is the most efficient, but teleologically this leaves the variously shaped erythrocytes of other species unexplained (Lovatt Evans).

The total number of erythrocytes in the body is too great to discuss, but it has been estimated that the total surface area of all of the erythrocytes in the normal adult body approaches 3200 square meters.

In practice we deal with the figure obtained from the number of red blood cells in a cubic millimeter of blood, and it is interesting to note that it was only eighty years ago that Vierordt made the first blood count.

Life is compatible with greatly varying red cell counts, either far above or far below the normal range of between 4,500,000 and 5,000,000. When the number exceeds 6,000,000 the term "polycythemia" is employed; when the number falls below normal, anemia is said to be present. In the upper direction the number may increase to above 13,000,000 per cubic millimeter. It is said that only 13,900,000 normal-sized red cells can be introduced without pressure into a cubic millimeter, even if no plasma were present. The highest recorded count is 13,600,000, which is an increase over normal of about 160 per cent. Higher counts have been reported, but are probably incorrect—unless the red cells were far below the normal size.

In the opposite direction the count may fall to a mere 200,000 per cubic millimeter with life still present. In percentage figures this is a fall to four per cent of normal.

---

* Delivered as the annual Scripps Metabolic Lecture at La Jolla, California, January 10, 1931.

* Ed. Note.—Part II of this contribution will be printed in the May issue of California and Western Medicine.

THE HEMOGLOBIN

Hemoglobin, the other element we must consider, consists of a simple protein, globin, in combination with an iron-containing pigment, hematin. The hemoglobin molecule is a very large one and a frequent simile is to the effect that if the erythrocyte were a mile in diameter the water molecules would be the size of peas and the hemoglobin molecules the size of baseballs (Jacobs). By virtue of the hematin, hemoglobin possesses a remarkable power for rapid combination with oxygen when exposed to air, and an equal facility for giving up this oxygen under the conditions existing in the tissue capillaries, notably, a low oxygen tension. It is related to other pigments existing in lower forms of life, some of them iron-containing such as hemerythrine, or with copper such as hemocyanin, all of them serving to carry oxygen from air or water to body cells, but hemoglobin far surpasses in efficiency. Hemoglobin is acid in reaction, but the oxidized form is seven times stronger as an acid than the reduced form. As a result, hemoglobin is an important buffer in preserving the reaction of the blood and so facilitates the carrying of carbon dioxid by the plasma from the tissues to the lungs.

The state in which hemoglobin exists in the erythrocyte is not clearly understood. It is not in solution; the quantity is far too great for that. Moreover, even the thinnest layers of erythrocytes are opaque, while hemoglobin solutions are quite transparent. It is not crystalline, but in amorphous state. If red corpuscles are put in hypertonic salt solution, they shrink through loss of water, but no hemoglobin leaves the cell; but if they are put in distilled water, they swell, suffer injury and the hemoglobin escapes. It is possible, however, to cut an erythrocyte in half while it is immersed in an isotonic solution and the hemoglobin will, nevertheless, not escape. Moreover, certain substances such as saponin, amyl alcohol, and ether, are able to destroy erythrocytes and liberate their hemoglobin by means of dissolving the lipoid constituents of the stroma, chiefly lecithin and cholesterol. An excess of cholesterol can protect erythrocytes from the destructive action of saponin. It is therefore incorrect to consider the erythrocyte simply as a bag within which the hemoglobin is imprisoned. The conditions are more complex. The hemoglobin is at least enmeshed in a stroma network, and it is probably in a state of adsorption of loose chemical combination with some element of the stroma, perhaps the lecithin.

Hemoglobin combines readily with oxygen to form oxyhemoglobin. We can appreciate its efficiency in this if we recall that, of the quantity of oxygen carried by the blood, scarcely one-fortieth would dissolve in the available plasma at the temperature and partial pressure of oxygen existing in the lung alveoli. In other words, if the oxygen were to be carried solely in solution in the plasma, it would require 150 quarts of plasma. The oxygen combining power of hemoglobin is primarily the function of the contained iron, of which there is normally in the blood only about 2.5 grams, and the oxygen capacity of the total hemoglobin of the blood is, therefore, only about one liter.

The total quantity of hemoglobin as well as the individual erythrocyte content varies with states of health and disease. In normal adults, 15.6 grams is an average figure of hemoglobin content per 100 cubic centimeter of blood with an erythrocyte count of 5,000,000 per cubic millimeter.

COMMENT ON BLOOD EXAMINATION

It is still customary to determine both the number of red cells and the percentage of hemoglobin. When the hemoglobin is in the normal range the red cell count gives no useful information, but has been continued in routine use partly in ignorance and partly as a check on the less accurate hemoglobin method in use.

Outside the normal range, however, both red cell count and hemoglobin are helpful. In the higher ranges of true polycythemia the ratio of 100 per cent of hemoglobin to 5,000,000 red cells is not maintained and with a count such as 12,000,000 red cells, which is over 200 per cent of normal, the clinical hemoglobin estimation would probably not record over 170 per cent. This is probably due to inaccuracies in the method or to small size of the red blood cell. Such a discrepancy results in a low color index; a low amount of hemoglobin per cell. This discrepancy is apt to be less evident as one deals with lower degrees of polycythemia.

In the range below normal both red cell count and hemoglobin estimation are needed, for with an almost normal level of red cells the hemoglobin may be far less; again giving a low color index and low volume index. It would be a sufficiently safe routine procedure to determine the hemoglobin content and only if this were abnormal in either direction, make a red cell count. This would delay matters only a few minutes in those instances in which the hemoglobin content proved to lie outside the normal range, and would save time and expense in the great majority of instances.

CLASSIFICATIONS OF ANEMIAS

Anemia.—We have now oriented ourselves a little with regard to the constituents of the blood whose reduction constitutes anemia, but before coming to a discussion of secondary anemia we must still dispose of so-called primary anemia either by a brief mention of it or by a definition of secondary anemia which will exclude the primary forms. This latter is difficult to do nowadays. We used to think it was easy; secondary anemias were those secondary to a discoverable cause; primary anemia was of undiscoverable origin.

About a year ago I gave a talk to a small county society near Philadelphia on this subject and I tried to give a classification of the anemias. After I had finished a nice old doctor came up and said he had enjoyed my talk very much because he recognized my classification as the same as that which my father had taught him in the medical school and it cheered him up to know that there was at least one phase of medicine which had not advanced and left him behind in the fifty years since graduation.

If we wish a classification, it is true we have nothing very new nor satisfactory. We have to employ primary and secondary; hyperchromatic and hypochromatic, microcytic and megalocytic, hemolytic and aplastic, but we are today much less tied to and interested in any classification than we used to be.

Of these various classifications of anemia, perhaps most interest today attaches to that by red blood cell size into the microcytic, or small cell anemia, and the megalocytic, or large-celled anemias. The methods for measuring the cells are not difficult on the whole, although direct measurement of a number of cells as suggested by Price Jones [1] is too time-consuming for practical purposes. The volume index of Haden and the various modifications of this method all derive the cell volume from simple hematocrit readings and red cell counts. Unfortunately there is no uniformity as yet in the terms in which the results are reported and this tends to confusion.

A considerable literature is growing up and there is a fair degree of agreement on a few points.

The long-held view that the average size of the red cells in pernicious anemia is above normal is confirmed by every observer, but there is some difference of opinion as to the degree to which this returns to normal with the disappearance of anemia under liver therapy. The evidence, however, favors the return to nearly a normal size.

Erythrocytes of the size of those seen in a relapse of pernicious anemia are said also to occur in sprue and, interestingly enough, in aleucemic leucemia.[2] Wintrobe [3] finds in this so-called macrocytic group that the cellular content of hemoglobin increases proportionately with the size of the cell, thus maintaining a normal hemoglobin concentration.

According to Wintrobe a normocytic anemia, with cells and hemoglobin content within normal range, results from acute blood loss, but Murphy and Fitzhugh find the cells larger than normal. This latter is perhaps reasonable in view of the rapid entry of water into the circulation to restore blood volume.

Microcytic anemia includes most instances of what we term "secondary anemia." Usually the normal hemoglobin concentration is preserved with the cell volume and hemoglobin content proportionately reduced. The more severe the anemia the smaller the size of the average individual erythrocyte. Wintrobe also describes a subtype of microcytic anemia which he terms the hypochromic in which, while the size of the cell is below normal, the hemoglobin content is even further reduced. This type is especially common as a result of chronic blood loss and includes the anemia of hookworm infestation.

In all bloods the young red cell is a little larger than the adult form,[4] so this does not help us. After this digression let us return to the subject of classification.

Of course, the terms "primary" and "secondary" are still the most commonly employed, but today these two terms are each used in two quite dissimilar ways. Primary anemia is still synonymous with Addisonian or pernicious anemia notwithstanding the fact that there are several other anemias just as primary, and secondary anemia still implies a recognized or suspected cause. But the term "primary anemia" is also used to describe an anemia with high color index and the morphological changes which we used to consider peculiar to pernicious anemia. We now know, however, that a secondary anemia due, for example, to cancer of the colon may present this same picture. Similarly a secondary anemia is one with low color index even if the case proves to be one of the idiopathic anemias such as hemolytic ictero anemia. In our current literature, one must be sure to determine how the writer is using these terms in each instance.

ANEMIAS OTHER THAN SECONDARY ANEMIA

Let us now clear the way for our consideration of secondary anemia by a brief mention of the various special forms of anemia which, from an etiological point of view, might all be classed as primary.

Pernicious or Addisonian Anemia.—Pernicious anemia is, of course, the most important member of this primary group, although recent advances in its cure make us hopeful of the discovery of its cause. Today we no longer rest the diagnosis of pernicious anemia wholly on blood count and blood morphology. Neither the severity of an anemia, its high color index, nor the presence of megaloblasts are sufficient grounds for the diagnosis. We are far more interested in the history of remissions, glossitis, and paresthesias and in the discovery of anacidity and the evidences of posterolateral sclerosis. In the blood it is the red cell size and the response of the marrow to the feeding of liver or some other specific stimulant. A characteristic response of the marrow with a rapidly rising reticulocyte count is of great importance, but for practical purposes the result may instead be recognized in the red cell count.

That the white cell count is almost invariably low in pernicious anemia is diagnostically helpful, but pernicious anemia cannot be diagnosed on any one feature but only from a combination of history, physical examination, and laboratory data.

Hemolytic Ictero-Anemia.—This is the disease formerly called "acholuric jaundice" or hemolytic icterus. One's suspicion is promptly aroused by the youth of the patient, the splenomegaly, the yellow color of the skin, and the history of periods of fever, abdominal pains, deepening color, and increase of jaundice. Confirmation is obtained by finding urobilin in the urine, and in the blood a markedly lowered resistance of the red blood cells to hypotonic salt solution, and a constantly high percentage of young red cells. These latter, which we used to recognize by their bluish staining in the spreads stained with Wright's stain, are today more clearly demonstrated by vital staining and named reticulocytes. The anemia itself may be absent or of any grade of severity, and sharp exacerbations occur with fever and increased jaundice. These are the deglobulization crises of the French writers.

Sickle cell anemia is in many ways analogous to hemolytic ictero-anemia. Both are found in young people and in both there is a familial tendency. In both, the red cells are abnormal: in one due to their feeble resistance to hypotonic salt solution, in the other in their curious tendency to assume a crescent or sickle shape in blood spreads sealed from the air or in blood kept *in vitro* with oxygen excluded. Both conditions may exist for long periods without anemia; both, however, are liable to attacks of abdominal pain, at which times anemia becomes more evident.

Sickle cell anemia occurs almost exclusively in the negro race; the individual may have a negative history, a normal physical examination, and a normal blood count. Even the sickling phenomenon varies in its demonstrability. Sometimes a greenish yellow tinge is present in the sclerae, sometimes unexplained leg ulcers are present. When anemia is present it is of the usual secondary type with low color index. It is important to remember that there may be no hint of sickling in the usual stained blood spread; occasionally enough of the cells will be abnormal in shape to suggest a further test, but as a rule the fresh blood, protected from the air, must be examined. Only by remembering this syndrome will certain cases of anemia be explained.

Aplastic Anemia.—Aplastic anemia results from toxic damage of the marrow as, for example, by radiation; from invasion of the marrow cavity by bone or tumor as in osteosclerotic anemia; and also as the end stage of any long chronic secondary anemia. Idiopathic cases also occur. The characteristic features are an anemia without any evidence of regeneration of red cells and sooner or later with evidence of a lowered production of granular leukocytes and of platelets. The individual adult red cells are normal, but in spite of the anemia no increase of reticulocytes is seen and no nucleated red cells are present.

Leukopenia or thrombopenia often join the anemia, and it is not to be wondered at that cases are readily confused with purpura hemorrhagica or with primary leukopenia.

Chlorosis.—What shall we say of this "green sickness of virgins" which we no longer see? It is the anemia whose blood count presents the most marked secondary features, and it is today explained as having been due to faults of hygiene and diet which are today seldom permitted. Its occurrence in young women, the greenish pallor of the face, the extreme reduction of hemoglobin with a red count which may be but little below normal forces the diagnosis on us occasionally. According to the classification by cell size, chlorosis would undoubtedly be termed a microcytic anemia of the hypochromatic type. I have seen but one unquestioned instance of this disease which twenty-five years ago provoked so much discussion. In the volume on diseases of the blood of the Nothnagel System, edited in this country in 1905 by Alfred Stengel, pernicious anemia occupied 110 pages, but chlorosis had 197 pages with 285 literature references.

Miscellaneous Hemolytic Anemias.—There is a miscellaneous group of hemolytic anemias which we cannot yet classify; some occur in or after pregnancy, some in apparently normal individuals. Some may be instances of an unrecognized chemical poisoning or infection, some are instances of a previously undiagnosed hemolytic ictero-anemia which after a long period of latency without anemia suddenly develop hemolytic blood-destroying activities.

Anemia and Splenic Disorders. — Finally a word must be said of the anemia which is so commonly a feature in many diseases of the spleen. Sometimes the anemia is so severe that it dominates the picture, but it seems to me that it is unfortunate to hide our ignorance by grouping widely differing conditions under such a term as splenic anemia. Nor should Banti's disease or Gaucher's disease be considered as primarily diseases of the blood. The anemia which accompanies these conditions is a secondary type of anemia not to be distinguished from that occurring in a great variety of unrelated diseases.

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HEART RATE AND SIZE*

THEIR IMPORTANCE TO THE PHYSICIAN

By William Dock, M. D.
San Francisco

Discussion *by Arthur Stanley Granger, M. D., Los Angeles; J. J. Sampson, M. D., San Francisco; Eugene S. Kilgore, M. D., San Francisco.*

UNTIL a century ago the physician's only physical guides to the state of the circulation were the rate and character of the pulse and the color and temperature of the extremities. New objective data have been introduced slowly—estimates of heart size from examination of the thorax, character of the heart sounds, and much later, arterial blood pressure and roentgen-ray silhouettes of the heart. Only quite recently have physicians felt much need for polygraphs or electrocardiographs and various tests of heart function. Vital capacity estimation, though suggested nearly a century ago, and repeatedly shown to be valuable, has never been widely used, and the same is true of another valuable physical index, venous pressure. At present in the laboratory stage, but likely to become a part of the complete examinations which are so widely practiced by specialists, are the measurements of volume flow of blood through the lungs and the rate of flow in the vessels. It is not remarkable that clinical judgment has often been warped by overemphasis of the most recent or most fashionable type of examination, and that experimental workers have often used one measurement as sufficient or of paramount value in estimating the effect of various conditions and drugs upon the action of the heart. This is notably true of recent measurements of cardiac output, which were interpreted as though heart strain was directly proportional to the volume flow of blood.

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In order that the physician may evaluate the need for various studies on his patients, it is well for him to bear in mind what is now known concerning the work of the heart, since this problem has been studied by able observers whose findings are in essential agreement. It is also well to keep before him what he really needs to know about the patient whose symptoms suggest circulatory disease. Briefly, what he must judge is how much work the heart is doing, how efficiently it is doing this work, and how fast this capacity for work is declining. In many patients he can estimate these facts more accurately from a proper history than from any combination of physical and physiologic studies. Yet he must form some decision as to the relative importance of physical data in indicating the state of the circulation.

HEART SIZE

Heart Size as an Index of the Work of the Heart.—The studies of Evans and of Starling proved that the heart is a pump whose efficiency at best is not over 25 per cent. In other words, the energy required is four to six times as great as the work done on the blood. When the blood pressure or volume of flow is unusually high or abnormally low, the efficiency falls off greatly. Under such conditions the energy spent may be ten to twenty times as great as the work done. There is, therefore, no constant relationship between the energy requirement of the heart and the aortic pressure or volume of blood flow. Under favorable conditions there may be a fairly constant relationship between the work done on the blood and the metabolic rate of the heart, but this is only accidental. These relationships are best seen in the experiments where the oxygen requirement of the heart is measured at varying levels of flow, arterial pressure and pulse rate. Results of such studies show that the only accurate and constant index of heart work is the diastolic heart size. This might have been predicted, since the energy liberated by voluntary muscle is mainly determined by the length of the resting fiber. An acceleration of rate, even though the blood flow and pressure are not increased, causes a proportional increase in energy needed. An increase in diastolic volume, whether to accommodate higher pressure or flow or because of poorer myocardial tone, increases oxygen requirement and energy expended by the heart.

These facts are graphically shown in Figure 1, prepared from the data of Starling and Visscher. In brief, energy requirement is doubled by 50 per cent increase in diastolic volume (in man this would mean a 30 per cent increase in area of the cardiac silhouette), or by 115 per cent increase in rate, or a 250 per cent increase in cardiac work. Or to state these relations in another way:

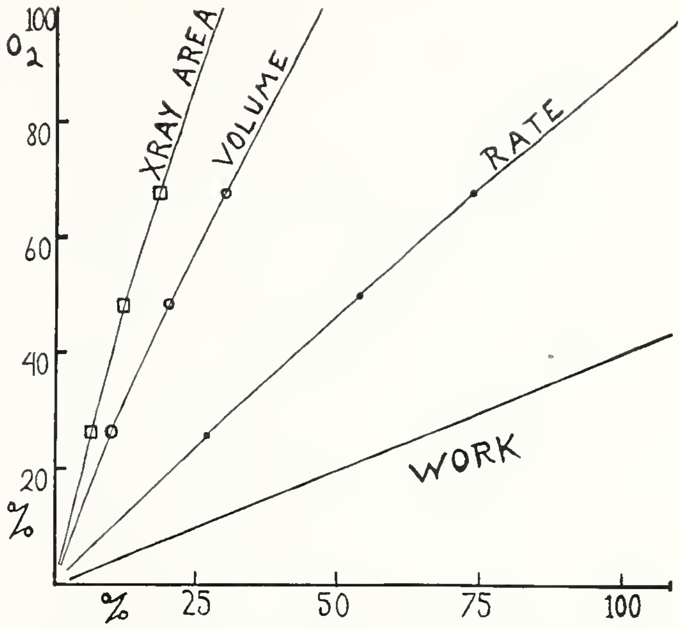

Fig. 1.—A schematic comparison of the increase in energy expenditure by the heart with increase in work done on the blood, or with increase in rate or volume of the heart. Per cent increase in oxygen used by the heart is plotted against per cent increase in area of the roentgen silhouette, the heart volume, the rate and the work per beat. Based upon data from experiments of L. Evans, and of Starling and Visscher, on the dog's heart. It is obvious that a 10 per cent increase in area of the heart silhouette indicates a greater need for energy than does a 40 per cent increase in cardiac output per beat.

A 50 per cent increase in area of the cardiac silhouette represents an increase of not less than 150 per cent energy liberated at each heart beat.

A 50 per cent increase in rate represents an increase of not less than 40 per cent in energy liberated by the heart per minute.

A 50 per cent increase in mean blood pressure or cardiac output per beat represents an increase of 0 to 40 per cent, with an average of perhaps 25 per cent, in energy liberated by the heart at each beat.

Thus the volume of the heart is important not merely because it bears a constant relation to cardiac effort, but because a given increase in volume is five to ten times more significant in indicating change in cardiac strain than is a change of similar proportion in the volume flow of blood. In heart failure the volume flow may diminish when heart size and heart strain are increasing.

CLINICAL SIGNIFICANCE

The Clinical Significance of Heart Size.—What do these facts mean when applied to the heart during exercise of the body, or during sickness? On exercise a vast increase in the width of the vascular bed takes place, so that with little or no rise in mean blood pressure the flow through the systemic vessels increases up to three times the resting volume flow per minute. Since the diastolic pressure falls, the heart empties more completely, and in spite of an increase of 25 to 50 per cent in the volume of blood expelled at each beat the diastolic volume is usually less than that of the heart during rest. Dietlen found the areas of the roentgen silhouette reduced on an average of eight per cent during violent exertion, the pulse rate increased by about 95 per cent. From this, one may estimate that the heart, although propelling forward three times the resting volume of blood, requires perhaps 50 to 60 per cent more energy during violent exercise. Even in valvular and other types of heart failure, except in most severe decompensation, the cardiac volume decreases slightly during exercise.

During febrile illnesses the peripheral resistance is also low, the blood flow is rapid, and the blood pressure perhaps a little decreased. If the efficiency of the heart muscle is unaltered one would again expect a smaller diastolic volume, especially with the rapid pulse. However, the loss of efficiency of voluntary muscles during fever, with the characteristic weakness and muscle pain, suggests that heart muscle may be similarly affected. In cases of sepsis not complicated by erythema, lung involvement, or other cause for added cardiac work, Dietlen noted increases of as much as 25 per cent in the area of the cardiac silhouette. Taking into consideration the simultaneous increase in pulse rate, this means that the energy expended by the heart each day during such illness is two or three times greater than that in health. With milder illness the effect is less, but with diseases such as pneumonia, in which the pulmonary resistance is increased, the arterial oxygen content reduced, and the patient disturbed by fatiguing cough and labored breathing, even greater burdens must be imposed upon the heart. Obviously it is absurd to compare the cardiac burden imposed by exercise with that due to pneumonia even though the blood volume flow is greater during violent exercise. Even in pneumonia it is quite certain that the severity of bacterial invasion and not the mechanical strain imposed on the heart usually determines the outcome. The reserve power of the heart is very great even when depressed by toxins or taxed by overwork for many months. The "heart failure" which closes the scene in fatal infectious diseases is not due to added cardiac work but to loss of reserve strength and efficiency. The physician's problem is to decrease the intoxication rather than to decrease the work of the heart.

Of great interest are the conditions in which alterations in arterial pressure lead to changes in cardiac effort. The most careful studies indicate that in hypertension the rate and volume of flow are unaltered or slightly increased. The rise in pressure is, therefore, due to altered peripheral resistance, and this in turn to a disturbed vasomotor tone, since these patients maintain their pressure during exercise, after blood loss, and during infection just as normal persons do. They do not exhibit the compensatory bradycardia which occurs when drugs elevate arterial pressure. The increased work of the heart is due to increased resistance alone. The evidence at hand indicates that a rise in diastolic pressure from 80 to 160 millimeters Hg. will only lead to a 30 per cent increase in the energy expended by the heart. In the average hypertensive patient, with a diastolic pressure of 110 to 120 millimeters Hg., the heart is using but 12 to 15 per cent more energy each day. This explains why we see some hypertensive patients whose long-standing disorder has caused little or no cardiac enlargement. The heart size of a patient who had hypertension for fourteen years, and a diastolic pressure of 130, was at the lower limits of normal size for his age and build. The roentgen-ray area, 92 square centimeters, was 20 per cent below the predicted average. The cause of hypertensive heart failure must be sought, not in the added burden, but in the underlying disease and its effect on coronary circulation and myocardial efficiency.

During anesthesia and operation the damage to the heart comes not from the altered blood flow, be it high or low, but from the effect on the myocardium of anesthesia, anoxemia, and altered acidity of the blood itself. The effect of low arterial pressure, due to shock, is also very important. The work of the heart is only slightly reduced by diminishing pressure and flow below a critical level, but the blood supply to the heart muscle is immediately dependent on the diastolic pressure. In shock, tachycardia and myocardial asphyxia from low blood pressure combine to produce some cardiac damage, although this is usually transient and recovery sets in as soon as the diastolic pressure is restored. This can be effected either by such physiologic treatment as transfusion or infusion of saline or acacia, or by the less reliable but more quickly available action of pressor drugs such as ephedrin or epinephrin in very small doses, and digitalis in full doses. All of these may reduce blood flow in normal animals, but this should not deceive us as to their value in shock, as it has misled those who regard blood volume flow as the sole criterion of circulatory efficiency. Reducing splanchnic and skin blood flow to raise aortic pressure is nature's way of maintaining a good cerebral and cardiac blood flow, and we should not hesitate, in circulatory failure, to use pressor drugs because they diminish flow through less vital areas. The action of epinephrin and related drugs, especially in large doses, is regularly followed by cardiac depression and a fall of pressure. Such drugs should not be used to the exclusion of or as substitutes for proper physiologic restoration of blood volume.

Heart Size in Congestive Type of Heart Failure.—While the consideration of heart rate and heart size variation occurring with infection or with altered blood pressure leads to a more correct understanding of the cardiac strain in these conditions, it is particularly in congestive heart failure that such studies offer a sound basis for opinion on etiology, diagnosis, and treatment. The etiologic implications are of particular interest in connection with the heart failure of hyperthyroid of hypertensive states. In young hyperthyroid patients and in many cases of hypertension, there is no increase in heart volume, and heart strain can be estimated directly from the increase in rate. From this it seems quite certain that, while hypertension or hyperthyroidism may precipitate failure of an abnormal heart, they do not cause the normal heart to fail. The cause for heart failure must be sought in the involutional changes common in the age group in which hypertensive and hyperthyroid heart failure occur, or in some concomitant factor. In the case of hyperthyroidism the increased sensitivity of the heart to anoxemia or reduced coronary circulation is fairly well established, and in certain hypertensive cases vascular lesions, similar to those of the retina, seem to occur in the myocardium. Such changes are undoubtedly more important in causing heart failure than the increase in energy liberation by the heart.

It is well known to the physician that coronary occlusion or angina pectoris may cause disabling disease without there being any cardiac enlargement, and that many patients with valve lesions may have normal heart size. As a general rule, however, the individual whose heart is normal in size is not threatened with congestive heart failure, and such symptoms as he has are due to change outside the heart muscle (*e. g.*, in the coronaries, in the vasomotor regulation of peripheral vessels, etc.). It is doubtful if venesection, bed rest, or digitalis are ever justifiable for treating palpitation or dyspnea on exertion in patients with hearts of normal size and rate. This criterion is particularly valuable in children, in whom murmurs, sinus arrhythmia, and dyspnea on exertion appear during convalescence from fevers. So long as the heart muscle is depressed by the toxins or actually affected with myocarditis, rate and size are almost certain to be abnormally high. The useful and cheerful prognostic importance of small heart size is thus apparent.

Eyster and his co-workers have done much to help evaluate heart size in relation to age, height and weight, and their studies on heart size in disease are useful as reference in determining when heart size is pathological. I believe that many robust middle-aged men, especially those who do heavy physical labor, have hearts which are abnormally large according to Eyster's standards. Such individuals may develop heart failure in the future, but are often quite free from all evidence of heart disease, or of distress even on violent effort. For this reason it is well not to overemphasize the diagnostic importance of slightly enlarged hearts. A normal heart size is compatible with most forms of heart disease, but does make for a good prognosis in all.

Very little is actually known as to acute changes in heart size, except that transient dilatation can be produced by drugs, or by such exercises as the Valsalva experiment, and decrease in volume by exercise, drugs, and blood loss. In acute pulmonary edema and cardiac asthma, the heart may actually be small shortly after the onset of the attack, but this is probably due to tachycardia from fright. A recent English report of sudden dilatation from exercise merely bears out what all of us have learned in comparing physical signs with roentgen-ray findings—a hyperactive heart seems to be much larger than it really is. I have been interested in heart size in the chronic arrhythmias, for dilatation is not uncommon. In a recent case of flutter of some weeks' duration, with apex rates up to 140 to 150 per minute, the heart became much smaller after regular rhythm was restored. The roentgen silhouette area fell from 167 to 130 square centimeters, that is, from 176 to 137 per cent of the average for her build. The energy expenditure of this heart at the time of the first observation must have been three times as great per minute as it was later. The dilatation in these cases, as contrasted with the small hearts seen with the tachycardia of prolonged exercise, indicates that the efficiency is very low and also that the circulation of the heart itself is probably inadequate.

These considerations lead to the belief that the rate of the pulse and the size of the heart are our surest guides to the work and the efficiency of the heart. The blood pressure, the rate and volume of flow are but inconstant indices of the energy liberated by the heart each day, and they may be greatly altered with but little change in the need of the heart for fuel and oxygen. Venous pressure is a very reliable guide, for it closely parallels the diastolic heart volume. Even when followed with the roentgen ray, accurate measurements of heart volume cannot always be obtained. Nevertheless, the way to more accurate knowledge of the effect of disease and treatment upon the heart lies not merely in studies of flow and arterial pressure, but in closer attention to pulse rate and heart size. Already such studies have shown that drugs like epinephrin and pituitrin, which are not effective cardiac tonics, cause tachycardia and cardiac dilatation, while digitalis, which is more often effective in heart failure, acts to rest and restore the heart by decreasing its diastolic volume.

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DISCUSSION

Arthur Stanley Granger, M. D. (2007 Wilshire Boulevard, Los Angeles).—Doctor Dock has presented some very interesting and scientific data concerning the importance of the rate and size of the heart in evaluating the relation between the energy spent to the work done on the blood—in other words, the efficiency of the heart under different conditions. It has impressed me that the most important point to be deduced from his paper is that the general practitioner is able to ascertain by comparatively simple means certain facts concerning the heart, for which rather complex tests have been thought necessary. In this medical age of, perhaps, overspecialization, the physician interested especially in cardiology is apt to set a bad example to the more general practitioner by placing stress on certain intricate methods of diagnosis, so that the latter becomes more or less discouraged in his ability properly to handle cardiac cases. It is, therefore, a great relief to hear so well trained a man as Doctor Dock simplify certain of these diagnostic methods, and place greater importance on older and better known methods, which tell the same story. It has been a great inspiration to many of us to read the lectures of the late Sir James Mackenzie and to note the simplicity of his deductions as regards facts concerning heart disease. Various instruments of precision, such as the polygraph, electrocardiograph, and the x-ray, as well as certain laboratory procedures, have proved themselves to be of inestimable value in the diagnosis, prognosis and indicated treatment of various heart disorders, and many such have become part of the diagnostic armamentarium of the cardiologist. For the past fifteen years I have been a staunch advocate of the usefulness of the electrocardiograph, and still believe it to be of great value in a clearer understanding of the mechanism of many types of heart abnormalities, but after all, there are but few cases in which a physician with a fair training in cardiology cannot gain by more simple means just as clear an understanding of what is happening in a given heart disorder without its use. Percussion, palpation and auscultation, together with sound reasoning, should never be neglected. We should feel indebted to Doctor Dock for this excellent paper and the very interesting scientific data presented.

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J. J. Sampson, M. D. (490 Post Street, San Francisco).—Doctor Dock's review illustrates the importance of recognition that heart size varies inversely to cardiac efficiency.

It is possible that the relations expressed by Starling and Visscher, and illustrated in Figure 1, may not apply to the damaged human heart muscle in the same manner as to the intact dog heart. Symptoms of congestive heart failure supervening when a damaged heart dilates may be attributed to the impossibility of the myocardium to do the work normally demanded by such chamber size increase.

The simplest clinical means of determining heart size changes, I believe, is the careful plotting of the apex impulse at each examination of the patient. Roentgen-ray determination is naturally the most accurate method, but unavailable for frequent use, and percussion is generally open to large personal error.

As has been implied by Doctor Dock, the heart size and its changes is a greater index of heart efficiency when correlated with minute volume output and its variations. Alterations of pulse pressure generally parallel stroke volume output in the same individual and the pulse rates complete a rough clinical estimate of the changes in the minute volume output.

This paper will serve a worthy purpose if it causes the clinicians to recognize these characteristic physiological adaptations to circulatory strains and thus to treat them more rationally.

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Eugene S. Kilgore, M. D. (490 Post Street, San Francisco).—I follow Doctor Dock with appreciation in the general direction of his argument. The size of the heart in comparison with the size and type of patient is one of the important indices of cardiac condition—much more important than blood pressure or loudness of murmurs, which too often captivate the physician's attention. In order to use this index to the best advantage, however, its limitations must be clearly in mind. It is not quite true that normal heart size "does make for a good prognosis in all" forms of heart disease; for, as Doctor Dock states elsewhere, coronary disease of the most threatening sort is often associated with normal size. On the other hand, it is surprising to observe what stamina is often possessed by very large hearts, notably some of those due to rheumatic aortic incompetence, which carry on comfortably through years of hard labor.

But the principal obstacle to the clinical application of the heart size index is not found so much in these exceptions as in the practical fixing of normal standards and the measurement of the heart in question. Gross enlargement is obvious and is usually associated with other helpful data; but it is precisely in the borderline case where we should like to base an opinion on heart size, that it is often difficult to be sure what is within or just without normal limits. As in the case of heads or shoulders, there is considerable variation in heart size among normal persons of the same height and weight. Percussion, especially of thick chests, is much cruder than its exponents have been willing to admit. Teleroentgenograms are much better; but the area of the silhouette bears to the volume only an approximately constant relation, because of the variation in shape of the heart. Furthermore, the silhouette, itself, apparently varies at times considerably according to the depth of inspiration and phase of the heart when the picture is taken. And, moreover, no two observers will trace the same silhouette from the same plate; and even the same observer will often vary considerably in two tracings from the same plate. To test the last point I submitted ten normal and ten abnormal films (picked at random) to a skilled exponent of the method, with request for the heart silhouettes to be traced on transparent paper. A week later, at my request, he retraced the same shadows on a new set of papers. A comparison of the two sets showed an average discrepancy of six to seven per cent and individual discrepancies as high as 25 per cent. Several of the greater discrepancies, however, occurred in the outlines of films which (on the second trial) he indicated as unsatisfactory for measurement.

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Doctor Dock (Closing).—In the discussion there seems to be general agreement that heart size is one of the most important indices of cardiac function and efficiency. There is also emphasis on the fact that no one physical finding or combination of findings is an unfailing guide to the physician in estimating the danger of cardiac failure.

Doctor Kilgore rightly points out that even the most reliable index of heart size—the roentgen silhouette—may not be regarded as a purely objective record, but that its measurement introduces a personal or subjective error. If we reject unsatisfactory films, as we would unsatisfactory respiratory records of the measurement of basal metabolism, we are still left with a maximum error of 12 per cent and an average of 5 per cent in Doctor Kilgore's fifteen films. This represents personal error in outlining the upper and lower borders and using the planimeter. It is apparent, then, that under the best conditions measurement of heart size is subject to error of about the same magnitude as that encountered in measuring basal metabolism. In borderline cases a single observation is of little value, either for heart size or basal metabolism.

EPILEPSY*

WITH REGARD TO THE INFLUENCE OF CALCIUM AND WATER METABOLISM UPON THE INCIDENCE OF SEIZURES

By H. Hopkins-Detrick, M. D.
San Francisco

Discussion *by H. G. Mehrtens, M. D., San Francisco; Samuel D. Ingham, M. D., Los Angeles.*

EACH new decade through which we have passed has added new facts to our knowledge regarding the etiology and therapy of epilepsy. Years ago we depended upon sedative drugs, chiefly bromid salts and luminal, to bring about the cessation of the convulsive phenomena; but the degree of sedation sufficient to suppress seizures was found to depress mental function and inhibit normal development and activity.

Following the empirical discovery early in this century[1] that fasting resulted in the disappearance of symptoms, new fields for research were open to the scientific endeavorer. Clinicians all over the country began to study the metabolic changes which were taking place under these conditions. The outstanding feature proved to be the development of a fatty acid acidosis; consequently Wilder [2] was led to propose the employment of high fat diets as a means of inducing the same type of acidosis. This new suggestion met with equally favorable results and transposed a difficult mode of therapy into one of practical usefulness. The question then arose as to whether clinical improvement was due to the sedative action of the anesthetic-like ketone bodies, or whether the acidosis *per se* was capable of bringing about such striking results. Peterman [3] was inclined to believe in the latter, for he was able to precipitate seizures by induced alkalosis following sodium bicarbonate feeding. Further investigation resulted in the general opinion that epilepsy associated with mental deterioration or obvious brain lesions did not respond to this treatment, while the so-called idiopathic group, especially if the onset occurred before the age of twenty, showed most satisfactory improvement.

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* From the Department of Neuropsychiatry, Stanford University Medical School. With the financial assistance of the Ruth Stern Research Fund.

* Read before the Neuropsychiatry Section of the California Medical Association at the fifty-ninth annual session at Del Monte, April 28 to May 1, 1930.

Before long it was discovered that any type of acid-producing regimen was capable of bringing about the desired result, whether due to acid or acid-forming salt ingestion, rebreathing, or breathing a mixture rich in carbon dioxid. The convulsive disorder not only ceased but there followed a general depression of nervous response.

CAUSE FOR PERIODICITY OF ATTACKS

In attempting to explain the periodic nature of epilepsy, investigators were stimulated to study the changes which occurred in these patients from time to time, and discovered that disturbances in the acid-base balance of the blood occurred with cyclic regularity. Alkalosis was found to develop up to the point of the seizure,[4 5] and during this phase alterations in the mineral metabolism and the water balance occurred. The ionized calcium dropped below the normal level. Water was retained in the tissues, urinary output became very low, and the excretion of sodium and chlorid ions was reduced. Along with these changes, heightened irritability of all of the nervous elements was observed.

Following the muscular exertion and apnea of the seizure, the opposite condition of acidosis set in, due to the accumulation of lactic and carbonic acid in the blood. There was sudden elimination of water from the body, with polyuria and increased excretion of sodium and chlorid ions. Polyuria following epileptic seizures had been described many years before, but until comparatively recently the mechanism for this frequent clinical observation was not understood.

As early as 1769 Stark [6] noted daily weight losses and increased urinary output during the administration of high fat diets, without arriving at a rational explanation. During his metabolism studies in 1903 and 1904, Benedict [7 8] demonstrated the same fact for starvation. More or less recently it has been made clear that this water loss (therefore weight loss) is due to the acidosis developing under these conditions.

Acidosis from any cause increases the output of water from the body by drawing fluid from the tissue cells. Fixed base leaves the cell, chiefly

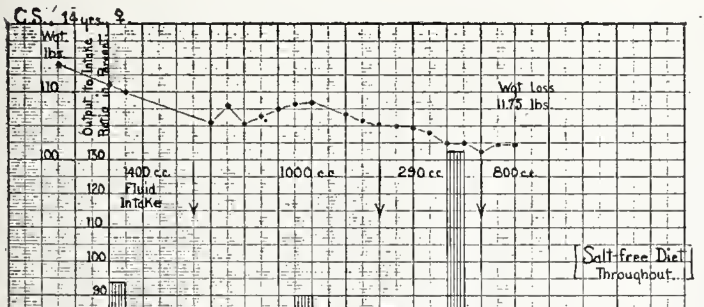

Fig. 1.—Italian girl, fourteen years; severe epileptic attacks for six years; history of instrumental delivery; second child in family. Fluid restriction and salt-free diet alone employed in treatment. At the point of lowest fluid intake (dietary plus free fluid) a definite rise in the ratio of urinary output to total fluid intake occurred. Clinical evidences of dehydration present at the same time. Grand mal seizures were replaced by petit mal without complete freedom from attacks at any time. Physical and mental depression made it necessary to resume fluid administration. Grand mal seizures recurred. Weight loss during observations was marked.

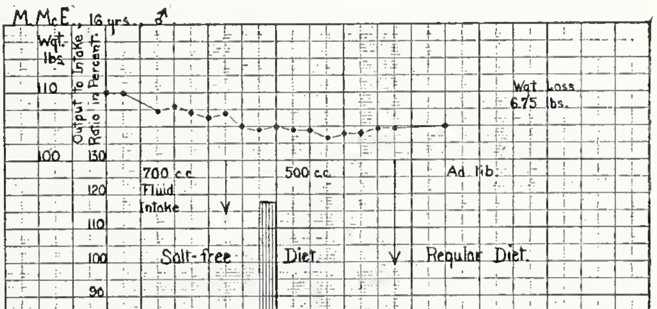

Fig. 2.—American boy, sixteen years, admitted to Lane Hospital in an acute epileptic equivalent state (acute mania). History of almost daily attacks since age of thirteen years. First child in family; poor heredity; mentally subnormal; chronic air-swallower and regurgitator. Treated with fluid restriction and salt-free diet alone. Consistent weight loss. A rise in the proportion of urinary volume to total fluid intake occurred during the period of lowest intake. Seizures ceased except for one very light one, to recur again with the administration of water and unrestricted diet.

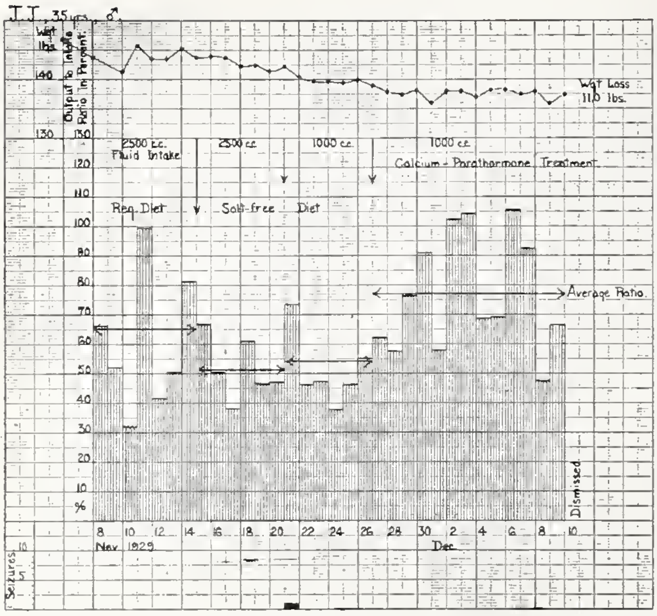

Fig. 3.—American man, thirty-five years. History of major epileptic seizures since the age of sixteen years. Family history of epilepsy. Patient psychopathic inferior type. Control observations made in order to determine the effect of the various factors of the treatment upon urinary output and weight loss. During the four periods only one factor was changed at a time. During calcium and parahormone administration a definite rise in the proportion of urinary output occurred. Weight loss continued throughout. At one time during the last period, patient felt as though attack were impending; experienced the aura of buzzing in the ear, but the attack did not occur.

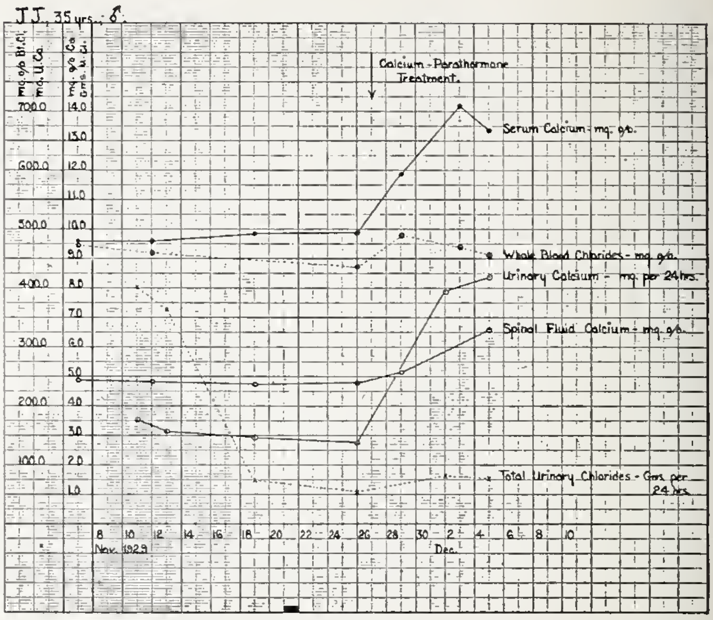

Fig. 4.—Same case as Figure 3, showing the chemical analyses made during the different periods. Marked fall in urinary chlorids occurred upon salt-free diet. Serum, spinal fluid, and urinary calcium determinations showed marked rise with the beginning of calcium and parahormone administration.

sodium and potassium ions, to aid in the neutralization of the acid substances and, according to Gamble,[9] carries water along with it, in order to maintain the fixed base concentration of the cell at a constant level. Marriott attributes the water loss to salt diuresis following the migration of alkaline salts from the cells.

The frequency with which one sees heightened nervous irritability, increased reflexes, muscle cramps and other signs of tetany in patients suffering with epilepsy impresses one with the close association between these two conditions.[10] Reports of epilepsy and tetany occurring in the same patient are numerous in the literature, and most writers agree that the same physico-chemical changes in the blood (alkalosis) precede the clinical manifestations of the disease. Tetany is explained on the basis of a reduction in the ionic calcium level below a certain minimum due to the development of alkalosis. Measures which raise the hydrogen ion concentration of the blood, thereby raising the ionic calcium level, or which

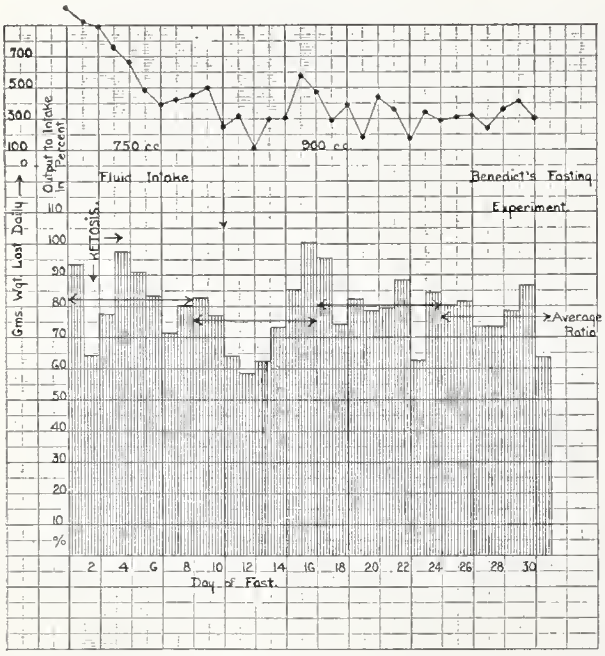

Fig. 5.—Figures taken from Benedict's fasting experiment and treated in a similar manner. Daily weight losses correspond more or less closely with the urinary output. A rise in the ratio of urinary output to total fluid intake is noted. There is some similarity between the changes which occur in water output under these conditions and under calcium and parahormone treatment.

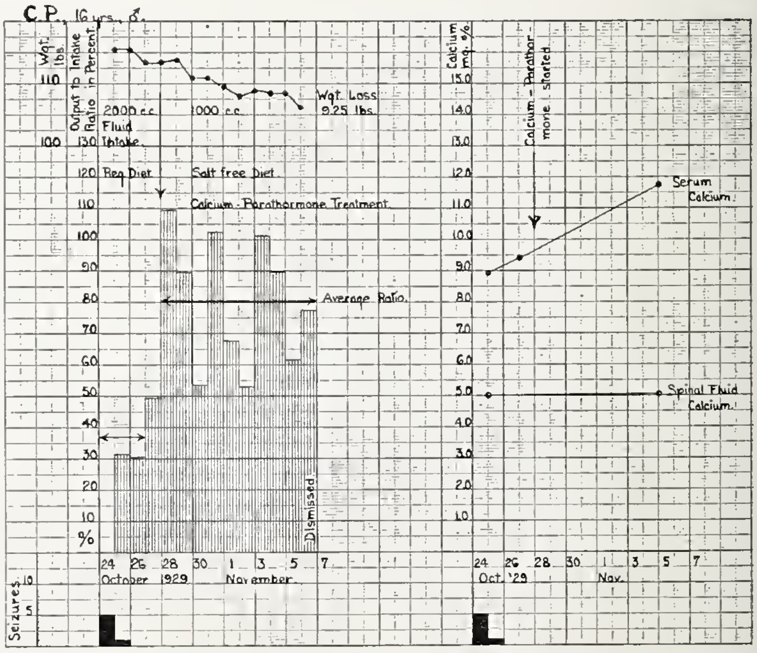

Fig. 6.—American boy, sixteen years. History of severe epilepsy since eighteen months. Fourth child in family. Alcoholism and migraine in father; insanity in near relatives. Patient mentally retarded and of psychopathic make-up. Seizures occurred on the average of every other day. Moderate fluid restriction, salt-free diet, and calcium-parahormone administration was followed by rapid weight loss, rise in the ratio of urinary output to total fluid intake, and a cessation of seizures. Has remained spell-free for several months at home.

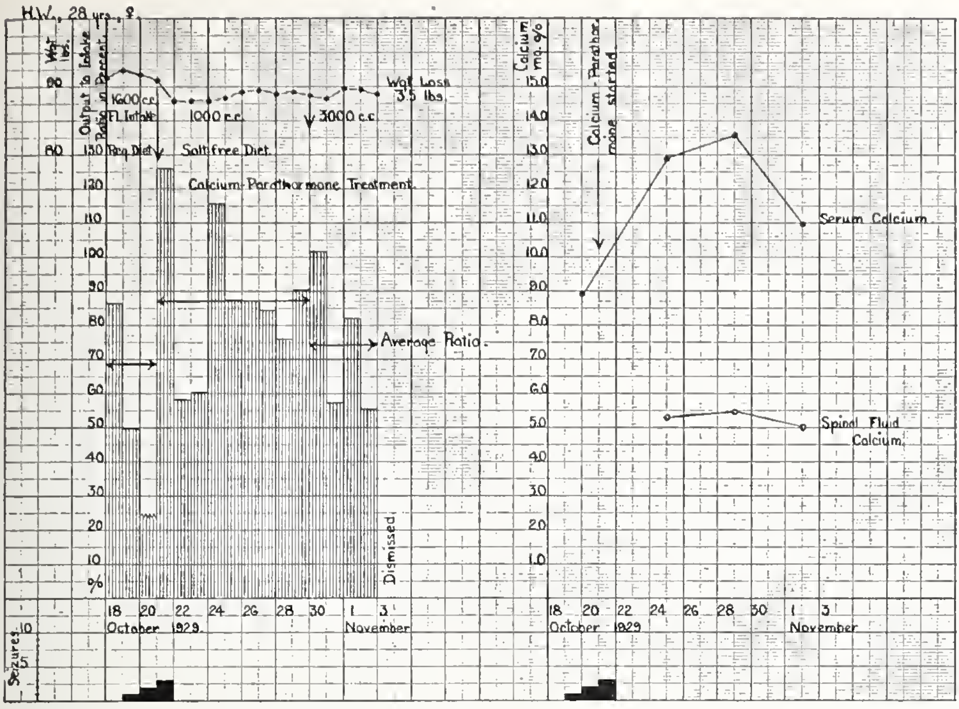

Fig. 7.—American woman, twenty-eight years. Onset of epilepsy during last three months of first pregnancy. History of childhood convulsions. Below average intelligence; very unstable, marked memory defect. Seizures had occurred several times a week, accentuated at the menstrual periods. During preliminary observation grand mal attacks appeared daily. These ceased with the institution of the special treatment, and marked subjective and objective improvement was noted during the remainder of her stay. Definite rise in the ratio of urinary output to fluid intake occurred. During the last four days three liters of water were supplied to determine her ability to handle large amounts of water under the same therapeutic conditions. A fall in the ratio occurred.

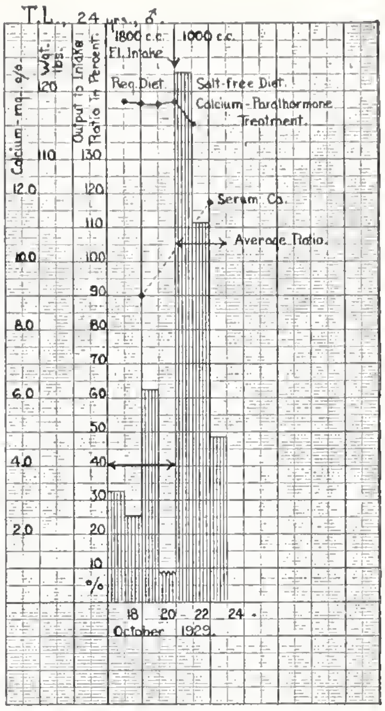

Fig. 8. — American man of twenty-four years. Grand mal seizures every month or six weeks, and petit mal several times a day for two years. First child, instrumental delivery; childhood convulsions. Patient feeble-minded, shiftless, cruel. Period of observation limited; however, a pronounced rise in the urinary volume in proportion to fluid intake occurred with the beginning of calcium-parahormone administration. Marked improvement has been noted since discharge.

supply the body with calcium from the outside are equally effective in alleviating symptoms. An analysis of the successful treatments employed in epilepsy makes this relationship appear closer.

TREATMENT BY RESTRICTION OF FLUID INTAKE

During the past year we have entered a new era in the treatment of epilepsy. Fay[11] and, later, McQuarrie[12] have been able to arrest seizures by restriction of fluid intake alone, and have been led to reëmphasize the importance of water metabolism in the etiology of this condition.

Looking back over the literature we find that Hippocrates,[13] in the fifth century B. C., described the "wet brains" of epileptics, and stated, "But whoever is acquainted with such a change in man and can render a man humid and dry, hot and cold, by regimen, could also cure this disease." After two thousand years have passed by, we have finally agreed that water has something to do with convulsive disorders.

Neurosurgeons[14] have noted for years that the brains of epileptic patients coming to operation appeared edematous and that excess subarachnoid fluid was present. In 1921 Zangemeister[15] proposed that the convulsions of epilepsy, as well as those of eclampsia and uremia, are due to hydration of the brain tissue. Rowntree,[16] a short time later, arrived at the same opinion as the result of his research upon induced water intoxication in experimental animals. Elsberg and Pike[17] have been able to increase the susceptibility of cats to absinthe convulsions by inducing edema of the brain with intravenous injections of distilled water.

If we review the changes which occur during dehydration with anhydremia, it is found that, owing to the reduction in the volume flow of the blood, oxidative processes are inhibited, and products of catabolism, chiefly acids, lactic acid (Marriott),[18] oxyproteic acid (Clausen)[19] and ketone acids accumulate in the body. In addition to this, concentration of the electrolytes occurs, as shown by studies in electrical conductivity and freezing-point determinations.

That a moderate degree of anhydremia results from fasting was shown by Benedict in 1907,[7] and although no reference is made to this subject in the literature, it is possible that the same change occurs during the acidosis of ketogenic diets, which is also associated with excessive water loss to the body. Anhydremia and dehydration may be induced clinically by restriction of fluid intake, by increasing the output through diuresis, catharsis or diaphoresis, or by a combination of both effects. The central depressant action that such a state exerts upon the nervous elements has been shown recently by Crisler,[20] and explains the frequently observed sedative effect of intravenous hypertonic solutions and of magnesium sulphate.

MINERAL METABOLISM AND WATER BALANCE

A study of the mineral metabolism of the body and its fundamental importance in controlling water balance should not be omitted in any discussion of this sort. Changes occur in conditions

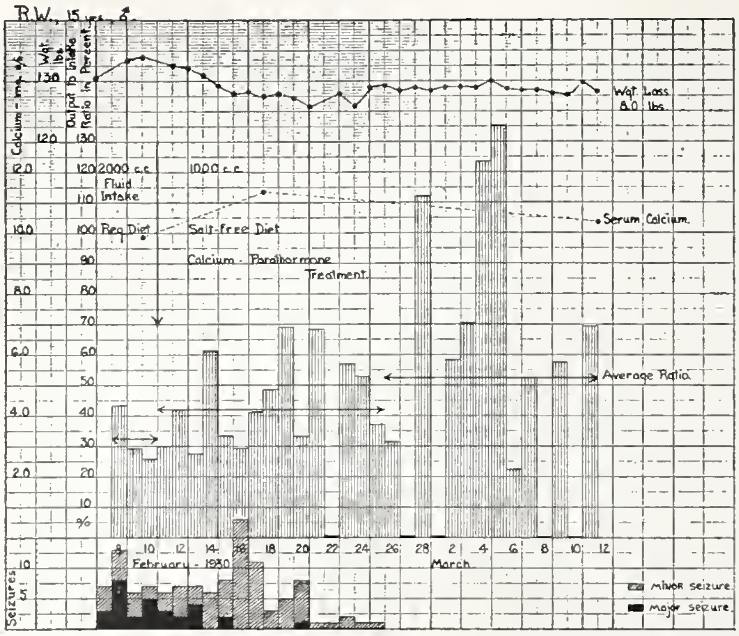

Fig. 9.—American boy, fifteen years. Clonic convulsive movements localized chiefly in right arm and hand, without loss of consciousness in an attack. Onset before two years of age. Chorea at eight years. Craniotomy one year before admission revealed thickening of arachnoid membrane. Response to fluid restriction of moderate degree, and calcium-parahormone treatment was most satisfactory. Seizures became less severe, then ceased. Weight loss and a rise in the proportion of urinary output occurred.

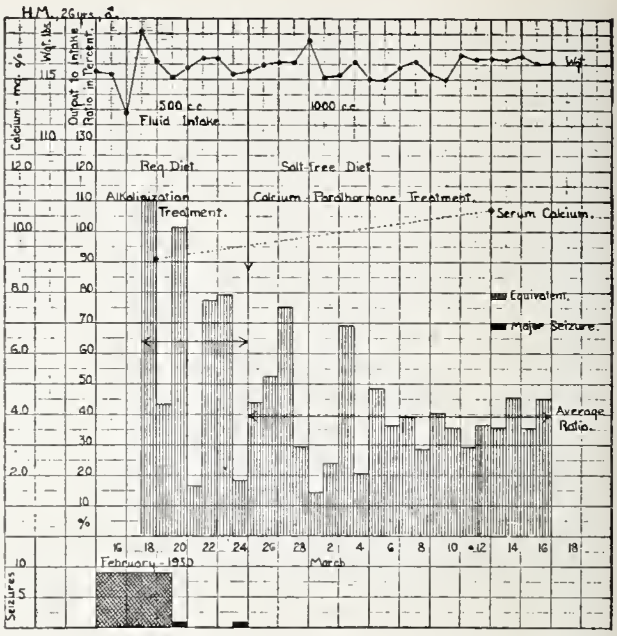

Fig. 10.—Russian man, twenty-six years. Epilepsy appeared following encephalitis at fifteen years. Normal development before this time. Attacks more frequent and severe in winter months (several each week); only one every one to three months during summer. Admitted to Lane Hospital in an epileptic equivalent state with pronounced mental confusion and disorientation. Alkaline therapy was followed by the precipitation of a typical major seizure with permanent disappearance of the equivalent state. Institution of the special treatment resulted in the disappearance of the seizures, and the marked mental and physical improvement which occurred was a most striking observation.

of acidosis and of anhydremia, in addition to water elimination, which seem to us to be of greater physiological importance. Readjustments in electrolytic balance occur, chiefly characterized by a marked rise in the available calcium ions. This rise is not only due to an increase in the hydrogen ion concentration of the blood, but is augmented by the concentration of the electrolytes.

Antagonism between the electrolytes has been shown by experimental biologists (Lillie, Loeb, and others) to control the ability of single cells or groups of cells to absorb and hold water. There are two groups of opposing ions, represented on the one hand by sodium and potassium, and on the other by calcium and magnesium (univalent vs. bivalent ions). This antagonism has been shown to have to do primarily with cellular permeability, hydration of tissue colloids, and with cellular irritability. Increased activity or irritability of the cell is explained by Bayliss [21] on the basis of increased permeability of the cell membrane, while Osterhout [22] uses permeability as a measure of the vitality of the organism. The bivalent calcium and magnesium ions decrease cellular permeability and, therefore, irritability, the univalent sodium and potassium ions exerting the opposite effect. Fischer [23] has shown that colloidal solutions absorb water under the influence of the univalent ions, calcium and magnesium, preventing this action. Bayliss notes that calcium favors the consolidation or stability of colloidal systems in opposition to the alkali metals which tend toward liquefaction. The increased irritability of unicellular organisms and of nerve and muscle tissue placed into pure sodium chlorid solution has been observed by many workers, the addition of small amounts of calcium or magnesium preventing this change.

Hydration of the brain cells is a function of the permeability of the cell membranes. Haldi [29] demonstrated that calcium and magnesium inhibited the absorption of water by brain tissue *in vitro*. By increasing the permeability of the brain to acid fuchsin by trauma or asphyxia, Syz [25] was able to lower the threshold of experimental animals for convulsions and to increase the activity of all of the nervous elements.

We have made use of the properties of the calcium ion in an attempt to arrest the symptoms of epilepsy. Disturbances in the calcium metabolism have been shown to exist in uremia and eclampsia; and in those cases with pronounced edema and convulsions the calcium of the blood was found to reach lower levels.[26] Bigwood [27] proved to his satisfaction that patients with epilepsy showed a marked fall in the ionized calcium of the blood just before the seizure, but there seems to be disagreement upon this point among writers. If we concede that alkalosis develops during this stage, we must agree that the ionized calcium is reduced, whether evidences of this change are found in the total calcium determinations or not.

Careful search through the literature reveals that calcium has been used for many years in the treatment of epilepsy. Osler [28] and Starr [29] advised its use without discussing its beneficial properties. Littlejohn[30] and, later, Ohlmacher,[31] brought about complete cessation of seizures after a period of four months of calcium lactate ingestion. It is noteworthy that of the bromid preparations, calcium bromid has been found to be the most effective in epilepsy. Graves [32] advocated the use of calcium lactate in acute epileptic

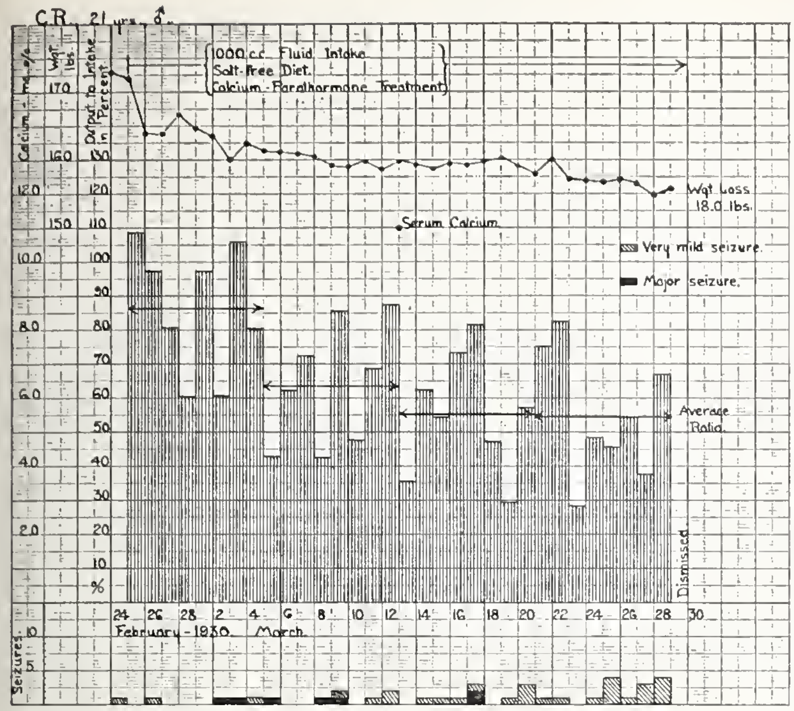

Fig. 11.—American boy, twenty years. Epileptic attacks of four years' duration. Family history of insanity. Patient of psychopathic make-up. Question of chorea at ten years. Seizures one to six times daily, marked variation in intensity. Most severe attacks nocturnal. Under special treatment marked weight loss occurred. The ratio of urinary output to total fluid intake was high at the outset. Seizures moderated in severity, but became more frequent. Since returning home, however, these minor seizures have decreased appreciably in number.

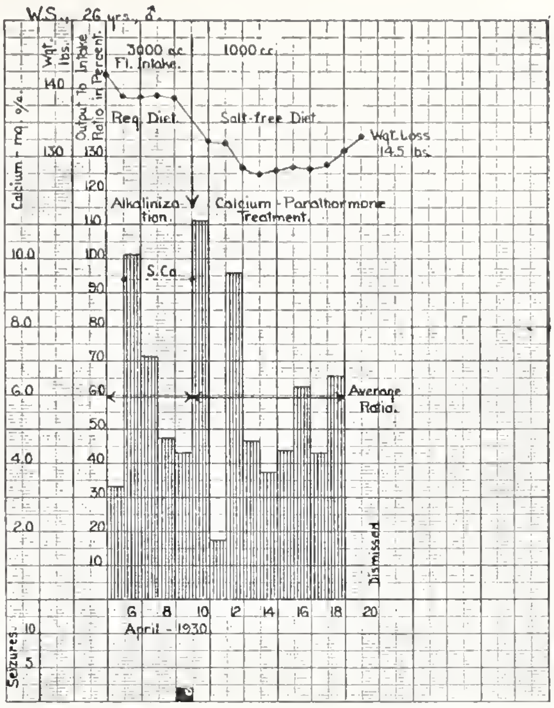

Fig. 12.—American man, twenty-six years. Epileptic seizures since ten years. One to three grand mal attacks daily without luminal. While taking drug, averaged one each month. Mentally retarded, extremely self-conscious and retiring. Alkaline therapy was followed by two grand mal seizures. Luminal was withdrawn and the special treatment instituted. No seizures appeared and the patient became much more alert and coöperative. Weight loss was marked, but the ratio of urinary volume to fluid intake remained unchanged. The preliminary alkalinization period showed some water diuresis following intake of three liters daily. With sudden restriction to one liter daily with the beginning of the calcium-parahormone treatment, however, the urinary output remained at the same moderately increased level.

manias, noting marked improvement after ordinary sedative therapy had failed.

Recent observers assume that clinical improvement in these patients following restriction of fluid intake is due primarily to the elimination of water from the central nervous system by lowering the water content of the entire body. They have attributed the value of starvation, ketogenic diets and acid feeding to the increased elimination of water following their use. Our observations would indicate that the important feature is the change in the mineral balance which these measures bring about, the water being of secondary importance.

The ability of the calcium salts to rid the body of excess fluid and also to decrease neuromuscular irritability is a well-recognized fact. Potent extracts of the parathyroid glands have been shown to increase the efficiency of calcium salt administration by increasing the ionic calcium of the blood and tissue fluid to a high level in a relatively short period of time. Collip[33] produced a profound degree of dehydration and anhydremia in experimental animals by its use alone.

Our patients have been given large doses of calcium lactate daily for a prolonged period and daily injections of parathormone (Collip) for the first few weeks. Ingested fluid was restricted to an amount well tolerated by the patient, and large amounts of cod-liver oil were given to increase the absorption of calcium from the intestinal tract, as well as to raise the ionic calcium level. By this means we have been able to raise the serum calcium to the desired degree. Salt-free diets were used not only to decrease thirst, but to remove the antagonistic action of sodium and chlorid ions toward the calcium.

The resistance of the tissue cells for water has presumably been increased by decreasing the permeability of the cell membranes. Saline disappearance tests[34] applied to the skin showed delayed absorption; the time becoming two to three times longer than before the treatment was started, indicating that the avidity of the tissues for water was much below the normal level. A general decrease in nervous irritability was noted. A rise in the ratio of urinary output to total fluid intake occurred and rapid weight loss followed, despite adequate caloric intake. Aside from the disappearance of the convulsive phenomena the most impressive observation was that of general physical and mental improvement. The patients became alert and active, skin color improved, the appetite increased, and their subjective feeling of well-being formed a striking contrast to their former state.

Contrary to previous opinion with regard to the forms of epilepsy improved by treatment, the regimen outlined in this paper appears to have been equally effective in all types of the condition, whether idiopathic or traumatic.

Our conception of the problem would lead us to predict that convulsive disorders are physiologically upon the same basis, and that the application of the same principles of therapy would be met with favorable clinical results.

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DISCUSSION

H. G. Mehrtens, M. D. (Stanford University Hospital, San Francisco).—It has been a great pleasure to observe the clinical results reported by Doctor Detrick in the paper we have just heard. We are all familiar with the epileptic patient treated with sedatives, particularly with the irritable disposition which was so frequently confused with the epileptic personality. Doctor Detrick has told you about the amelioration and cessation of convulsive attacks under the calcium and water limitation methods. It seems to me that the change in personality is even more noteworthy because, while absence of attacks may be important, if that is all that can be accomplished, the triumph is not very great. I have been especially impressed with the improvement in disposition and attitude toward life's problems after some weeks of treatment. It suggests that possibly what we have in the past considered as epileptic temperament may be capable of modification. It is even conceivable that other abnormal mental states may be affected by modification of the intracellular activity. I feel that this phase of the work gives most promise for the future.

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Samuel D. Ingham, M. D. (1252 Roosevelt Building, Los Angeles).—The problem of epilepsy has always been a baffling one and until recently little real progress has been made in solving it. The disappointing outcome of various theories regarding it and treatments enthusiastically advocated for it have caused a healthy skepticism of new theories and treatments. It appears, however, that there is reason to be more hopeful for the future in view of the newer knowledge of physics and biochemistry. We are learning to think of physiologic and pathologic processes in terms of ions, electrolytes, colloids, surface tension, etc., in relation to cell activities and so enter a rich field for research. At present it appears that fluid retention in the brain tissue is an important condition in epilepsy and that dehydration is of distinct value in its treatment. Why fluid retention should occur in the brain is not apparent, but it is obviously the result of some disturbance of nature's mechanism for maintaining the normal equilibrium. One possibility would appear to be the damage to tissue from trauma and inflammation since the histories of epileptics abound with episodes suggestive in this direction. The phenomena of allergy also come in for consideration in this connection as well as the important biochemical functions of the endocrine glands. But little is known of the automatic regulating mechanisms inherent in animal organisms which maintain within the limits of normalcy the various physical constituents and the numerous essential activities. It may be assumed, however, that such regulating mechanisms do exist, that at least some of them are located in the central nervous system, and that they operate to a large extent through the vegetative nervous system and endocrine glands. The clinical case histories presented in this paper are interesting and significant, and they are the more encouraging in view of the fact that definite clinical improvement has been obtained over prolonged periods even when sedative drugs have been withdrawn. The personality improvement, as Doctor Mehrtens has observed, is of especial significance, as it would seem to indicate not only a reduction of the cerebral irritability but of increased normal activity of the higher brain functions.

CANCER OF THE LARYNX*

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Los Angeles

Discussion *by Rulon S. Tillotson, M. D., Woodland; Orville N. Meland, M. D., Los Angeles.*

A SURVEY of the situation of cancer of the larynx in Los Angeles would seem to indicate that there is a big discrepancy between the actual number of cases of laryngeal carcinoma and the number of patients who are given adequate treatment.

This situation exists, I presume, in much the same degree in other similar communities. This paper is presented in an attempt to review the problem of cancer of the larynx, with the earnest hope that it may stimulate interest in furthering the solution of the problem.

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* Read before the Eye, Ear, Nose, and Throat Section of the California Medical Association at the fifty-ninth annual session at Del Monte, April 28 to May 1, 1930.

EARLY DIAGNOSIS DESIRABLE

Cancer of the larynx presents symptoms that should lead to early diagnosis. Yet, this condition is rarely recognized until it has existed for some time: eleven and one-half months is the length of time quoted as the average of one hundred cases, from the earliest symptoms to the diagnosis.[1]

Allow me to quote an excerpt from an eminent authority on the subject, Sir St. Clair Thomson: [2]

> There is no internal region of the body where cancer gives such early warning of its occurrence, where it is so slow in evolution and where it so long remains localized, as on a vocal cord. In no other internal situation can surgery secure such enduring freedom from the disease.
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> Intrinsic cancer of the larynx generally attacks the area of the vocal cords, or the subglottic region. I have never seen it originate on the ventricular bands, or in the interarytenoid regions. It might as well be called "chordal cancer." Where it is not that, occasionally it originates in the ventricle of the Morgagni, or in the more vascular and glandular tissue of the subglottic area. Chordal cancer always declares itself by an early and persistent hoarseness.

Carcinoma of the larynx is intrinsic when it arises within the body of the larynx, that is, in the cords, the subglottic area, or the ventricles. It is extrinsic when it arises on the epiglottis, the upper margins, or the lateral surfaces of the aryepiglottic folds, or on the posterior surface of the cricoid.

Extrinsic carcinoma of the larynx is, peculiarly, not amenable to treatment of any kind; arising, as it does, from tissue that is richly supplied by lymphatics, invasion of the adjacent tissue has occurred long before the diagnosis is established.

Intrinsic carcinoma remains confined for a long time within the body of the larynx and, due to the poor lymph drainage from this area, is slow to invade the surrounding structure and become extrinsic. It becomes extrinsic, usually, by direct invasion.

Most of the unsuccessful attempts at surgical cure of this disease can be attributed to delayed operation, which was instituted after the cancer had long since ceased to be intrinsic.

It is in intrinsic cancer of the larynx that surgery has its great opportunity. "Early diagnosis of carcinoma (intrinsic) of the larynx offers a lasting cure of 70 to 80 per cent." [3]

SURGICAL PROCEDURES FOR INTRINSIC CANCER

There are three main surgical procedures for intrinsic carcinoma of the larynx. Their indications and applications are well agreed upon and are as follows:

1. *Hemilaryngectomy.*—This is a dangerous procedure with a high mortality. This is due to disturbance in swallowing, as a result of injury to the arytenoid system and the consequent invasion of the trachea and bronchi by food and saliva, resulting, eventually, in death from pneumonia. This operation has fallen into disrepute has no place in the consideration of surgical cure of intrinsic cancer. It is mentioned here because it was formerly used as the operation of choice in unilateral laryngeal involvement.

2. *Laryngofissure (Thyrotomy).*—This is the operation of choice when the lesion is confined to one cord and does not extend beyond the anterior commissure, or to the posterior third of the cord. It is possible sometimes to effect a cure by this procedure when the anterior commissure is crossed and there is invasion of the anterior half of the other side. But, as I have found by sad experience, the danger of recurrence is great. It is true that one of my patients with bilateral involvement, so operated, is alive without recurrence after three years; but I feel that he can attribute his result to good luck rather than to good management.

3. *Total Laryngectomy.*—This is the operation of choice in intrinsic cancer of the larynx when the lesion involves the posterior third or has invaded the anterior commissure on the opposite side. This procedure offers the most favorable chance of permanent cure, provided the cancer is still intrinsic.

From the above it is noted that surgical procedure is narrowed down to laryngofissure and laryngectomy. The indications as given and agreed upon by Thomson, Jackson, Mackenty, Tucker, F. O. Lewis, and others, are so well established that it would seem as flying in the face of Providence to deviate from these precepts.

INCIDENCE OF CANCER OF LARYNX

It is, of course, impossible accurately to estimate the total number of individuals who develop cancer of the larynx in this or any other locality. Taking the figures quoted by Crile [4] that cancer of the larynx occurs from .1 to 1.9 per 100,000 population, there occur in Los Angeles 1.5 to twenty-eight cases per year. Mackenty [5] gives the incidence of malignancies of the larynx as two to three per cent of all malignancies. In his work on the subject he states: "According to Jurasz, malignancy of the larynx occurs in five per cent of all malignant tumors."

Mackenty [6] also states that malignant disease of the larynx occurs in five per cent of all malignant tumors.

In the United States, during 1928 the total death rate from cancer was 95.9 per 100,000 population. Taking these figures as a basis of computation, there can be expected to occur in Los Angeles [7] (with an estimated population of 1,500,000) during one year, 1438 deaths from cancer. The actual number of deaths from cancer given in the annual report of the Los Angeles department of health during the fiscal year 1928-1929 is 1453. Thus, according to figures given by Mackenty, there occurred in Los Angeles in one year twenty-nine to seventy-two cases of carcinoma of the larynx. Inaccuracies in diagnosis, as well as other causes of death in persons also having carcinoma of the larynx, can be expected materially to increase this number.

EARLY TREATMENT IMPORTANT

Too few patients suffering with this disease are given a chance at surgical benefit. Generally surgical relief is sought when there is laryngeal obstruction sufficient to cause dyspnea or when there is imminent danger of suffocation, and then it is too late to effect a cure. In Los Angeles there is a liberal supply of well-trained and competent laryngologists, yet a search of the hospital records of ten years shows that there have been performed but ten laryngectomies, one hemilaryngectomy, and seven laryngofissure operations.

Dr. James Percy during this time has performed twelve operations in this region, all of which were for extensive involvement of extrinsic cancers, of the type usually considered inoperable.

Tucker[8] states: "Radium and x-ray therapy have no place in the treatment of cancer of the larynx, except in some cases as postoperative radiation, after laryngofissure or laryngectomy, to prevent glandular invasion; and in those cases which are not amenable to surgery because of location or extent of growth."

Quick and Johnson,[9] in an analysis of one hundred and fifty-six patients treated at the Cancer Memorial Hospital, conclude that, while radium therapy of primary operable intrinsic cancer of the larynx is permissible, the evidence, to date, does not warrant advocating it as the agent of choice.

Mackenty[10] states: "In my experience radium has been an utter failure for treatment in cases of squamous cell laryngeal cancer (*i. e.*, in 96 per cent of laryngeal cancers). Its false promise is luring thousands beyond the aid of surgical procedures."

Others can be quoted who express the same opinion. In my personal experience radium has been used only as a palliative measure. I have rarely been able to detect that radium treatment has produced any beneficial results.

SIGNIFICANT SYMPTOMS

When persistent hoarseness, however slight, develops in a patient past the age of forty he should be kept under the constant observation of a competent laryngologist until a satisfactory explanation of the hoarseness has been determined. He should be a cancer suspect until proven otherwise.

Hoarseness may be present for a long time before a lesion can be seen. In one patient with hoarseness and throat discomfort, it was not until eighteen months later that a definite lesion could be determined. As soon as a definite lesion is located, it should be frequently observed, and as soon as it gives evidence of extension a biopsy should be done.

It is wrong to wait for such signs as dyspnea or cord fixation to develop before considering the possibility of malignancy. If the first biopsy is not diagnostic and the lesion is still extending, repeated biopsies should be made.

DIAGNOSIS

The scope of this paper is not intended to include the differential diagnosis of carcinoma. It goes without saying that a patient with a laryngeal lesion will be investigated for the presence of tuberculosis and syphilis. However, patients infected with either or both of these diseases may also develop cancer.

If the lesion is not typical of tuberculosis or lues, the diagnosis must depend upon biopsy. On more than one occasion others, as well as myself, have considered that a certain laryngeal lesion was typical of malignancy, only to find by biopsy that it was a granuloma of tuberculosis.

Biopsies of course are frequently not diagnostic, as the piece removed does not contain a part of the true pathologic tissue. In such a case we can only use our best judgment and hope that we are right in our decision.

When it is possible to obtain a positive diagnosis of malignancy by biopsy, it gives a sense of mental security and freedom from responsibility in making plans for the future care of the patient. As soon as the diagnosis of malignancy is positively established, a suitable surgical program should be decided upon and carried out.

SUMMARY

1. Treatment of intrinsic cancer of the larynx is purely surgical.
2. Surgery offers an excellent chance for cure.
3. Our only hope of progress in this disease lies in recognition of early symptoms.

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DISCUSSION

Rulon S. Tillotson, M. D. (Woodland Clinic, Woodland).—Doctor Jesberg's paper gives us a concise review of the subject of carcinoma of the larynx. The statistics given relative to the incidence of carcinoma of the larynx are very interesting.

As has been stated, over 90 per cent of intrinsic cancers of the larynx are of the squamous cell variety and arise on or near the vocal cord. The explanation for this variety of tumor arising in this region and not in other parts of the glottis is clear, if we remember, the true vocal cord is covered with squamous epithelium, and as we pass to the floor of the ventricle above or to the subglottic region below, there is a change to the ciliated columnar type of cell.

Doctor Jesberg has stated that it is a mistake to wait for cord fixation before considering the possibility of malignancy. Fixation of the cord at one time was considered one of the early signs of intrinsic cancer of the larynx; however, we now regard this finding as a borderline stage between intrinsic and extrinsic cancer of this organ.

I remember a patient seen by Dr. H. B. Graham and myself of an apparently intrinsic cancer of the larynx. The growth, an ulcerative lesion about the diameter of a dime, involved the anterior portion of the right vocal cord and adjacent region and extended well up to the anterior commissure. The vocal cord was fixed. A laryngectomy was done under local anesthesia by Doctor Graham and myself. The operative wound healed and the patient was breathing comfortably through the opening into the trachea on his discharge from the hospital. However, about two months following, he returned with a recurrence at the operation site and in the glands of the neck. Fixation of the cord in this patient might well have been interpreted as the beginning stage of an extrinsic cancer, although the operative indication was for the operation we had performed.

With advancement of intrinsic cancer of the larynx to the stage where there is fixation of the cord it is always well to x-ray the lungs if this has not been done. In a small percentage of cases we may find metastasis has already occurred.

Too much importance must not be attached to the age of the patient in differentiating cancer from other lesions of the larynx. Turner[1] has correctly said that no patient is too old to develop tuberculosis of the larynx or too young to be the subject of malignancy. I recently saw a case of tuberculosis of the larynx appearing for the first time in a man of sixty-four. An x-ray of the chest showed an old fibroid phthisis. The latter had become active again and was called attention to by the laryngeal lesion. Figi and New[2] have reported a case of cancer of the larynx occurring in a youth of fifteen on whom a laryngectomy was done to eradicate the growth. Thomson[3] reports Chiari as seeing a chordal cancer in a girl of sixteen.

Doctor Jesberg has referred to the difficulties sometimes present in the diagnosis of cancer of the larynx. In a recent article in the ***Journal of Laryngology and Otology,*** published in Edinburgh, Horne[4] states that cancer of the larynx is diagnosed more often than it exists, and that tuberculosis stands first in causing this error of diagnosis. He refers to patients reported by Semon, Thomson, and others, operated by these men for malignancy, which later proved to be tuberculosis. Such experiences in the work of these leaders in the specialty of laryngology emphasize the difficulties that may be present in the diagnosis of laryngeal lesions.

A biopsy should be done on any laryngeal growth where there is a suspicion of malignancy. In my own experience direct laryngoscopy, using Jackson's anterior commissure laryngoscope and sharp biting forceps, affords a satisfactory method of obtaining a biopsy specimen.

The work of Crawford[5] shows that the taking of a biopsy does not influence metastasis of the growth. His conclusions were based on the examination of a number of larynges removed by Dr. Fielding Lewis. In many of the cases the patient had refused laryngectomy for several months following a positive report from biopsy.

About two years ago I listened to Sir St. Clair Thomson discuss his results with the laryngofissure operation in the treatment of intrinsic cancer of the larynx. I was impressed when he said that 50 per cent of his patients had been operated upon without a biopsy because it had been impossible to get a suitable piece for diagnosis. His statement suggested two things: first, that he sees many of his cases real early; and second, that with long clinical experience such as he has had, it would seem clinical manifestations outweigh the laboratory in making a diagnosis.

Doctor Jesberg did not refer to the intralaryngeal method of removal of small carcinomata of the vocal cords. I presume that he, like many of us, considers the uncertainty of complete removal the objection to this method. Lynch[6] has reported a group of patients in whom he has successfully removed perorally minute size carcinomatous growths of the vocal cords without recurrences. He uses suspension laryngoscopy with ether anesthesia. In view of Doctor Jesberg's extensive experience in direct laryngoscopy and bronchoscopy, it would be interesting to hear his opinion on the adequacy of the intralaryngeal method of removal of minute size carcinomata of the vocal cords.

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Orville N. Meland, M. D. (Los Angeles).—My discussion of this paper will be from the radiological standpoint. I think that Doctor Jesberg's presentation should be read by every general practitioner, for it will give him an idea as to the frequency of occurrence of laryngeal carcinoma as well as the necessity for prompt reference of patients with laryngeal symptoms to competent laryngologists for early, accurate diagnosis. In many instances this will require biopsy to prove or disprove clinical impressions. In our work we see a great number of patients in the terminal stages of this disease, and at least half of them give a history of prolonged local treatment before a clinical diagnosis of malignancy is made. Undoubtedly, in a few of them, earlier diagnosis might have resulted in complete eradication.

Now what is the best treatment of this condition? In the early intrinsic variety, where the disease is still localized, surgery is successful in the majority of patients. This means a laryngectomy, although some men advise chordotomy alone. The work of St. Clair Thomson and Mackenty shows what surgery has done and can accomplish in this field. In the extrinsic variety it is generally agreed that surgery cannot eradicate the growth completely. These patients come to the radiologist for relief.

The use of irradiation in laryngeal carcinoma is not so simple as one thinks. The reason for this is that most of these carcinomata are made up of stratified squamous cells and, as such, they are quite radioresistant. Occasionally one sees a so-called lymphocarcinoma which is very sensitive to treatment, and it is in this class that the majority of radiologic recessions have taken place. In the radio-resistant type the dosage necessary for destruction is very high and requires an elaborate technique of cross fire by external irradiation, as well as local implants of gold radon seeds. Quick, Quimby, and Martin at the Memorial Hospital in New York say that it requires from two to eleven erythema doses to destroy a squamous cell radio-resistant carcinoma. To accomplish this a troublesome chondritis may result, if infection is present, since laryngeal cartilage is rather susceptible to injury.

The use of radium needles or gold filtered radon seeds within the larynx must be done only after very careful consideration of all factors involved. One must be assured of accuracy in diagnosis as far as the radio-sensitivity of the cells is concerned, as well as adequate drainage to avoid infection.

To sum up, I feel that, from a radiological viewpoint, these rules should be followed:

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1. Prompt reference of patients with laryngeal symptoms to a competent laryngologist.
2. Biopsy on suspicious lesions to verify clinical impressions of carcinoma, with special attention paid to the degree of cell differentiation, for treatment purposes.
3. Surgical treatment of the early intrinsic variety, reserving irradiation to the extrinsic variety and to those intrinsic types where biopsy reveals that one is dealing with an undifferentiated tumor. New and Judd at the Mayo Clinic have shown that in these, dissemination is so rapid that even the most radical surgery is followed by prompt recurrence. Fortunately they are very radio-sensitive and should be treated by irradiation only.

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Doctor Jesberg (Closing).—Doctor Tillotson has asked my opinion regarding intratracheal removal of small neoplasms. My experience with this procedure is too small to form a basis for opinion. I have no doubt that small tumors can be removed by the oral route, but the procedure, I believe, is generally considered as inadequate. Certainly any more than a superficial involvement could not be treated by this method. Laryngofissure and removal of all soft tissue in the area of the lesion down to the cartilage is the much better plan.

LEAD INTOXICATION[*]

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Discussion *by Fred H. Kruse, M. D., San Francisco; Lester Newman, M. D., San Francisco.*

In the diagnosis of acute and chronic lead intoxication in industry, precise knowledge concerning the criteria necessary for making a positive diagnosis is too often lacking. Likewise, precise knowledge concerning modern methods of treatment is by no means the rule among physicians handling these cases.

In this communication the records of one hundred patients referred for a consultant diagnosis are analyzed in an attempt to bring out the relative importance of the necessary criteria for a positive diagnosis. Of this number, eighty-two were considered to be suffering from lead absorption and intoxication, and eighteen were considered negative, their symptoms being explained by other diagnoses, although in some instances these latter patients showed evidence of present or previous lead absorption.

EXPOSURE

A history of exposure to lead is naturally of the greatest importance, and as a rule the statement of the patient from industry reporting for examination is sufficiently convincing as to this point. Not infrequently, however, the employers report that the claimant has not been exposed to contact with lead; then the situation calls for special investigation. One of the patients reported in this series was stated by his employer to have had no possible exposure to lead, as he was spraying automobiles with a duco enamel which contained no lead. The patient made the situation clear when he stated that part of his work was to sandpaper the paint off old automobiles, preparing them for the duco spraying. Another diagnosis of the series was contested by his employer on the ground that the patient handled no lead whatever, although he was employed in a battery manufacturing plant. The statement was found correct as to the handling of lead, but inspection of the plant disclosed that the floor of the room in which this young man worked was covered with dust containing a high percentage of lead. The laity and many medical men hold the idea that the most prolific source of "leading" is from improper attention to personal cleanliness while working about lead—eating with dirty hands, chewing tobacco, carrying lead on the clothing. As a matter of fact the inhalation of lead dust is by far the most prolific channel of lead absorption and the gastro-intestinal route is the least important.

SYMPTOMS

Analysis of 100 cases referred for chronic lead intoxication. Of this number, eighty-two were diagnosed as suffering from lead poisoning and eighteen were considered negative, their symptoms being explained by other diagnoses.

Table 1.—*Symptoms Present Indicated by Percentage*

Nausea and vomiting	35
Abdominal cramps	80
Loss of appetite	50
Constipation	40
Bad taste in mouth	42
Weakness	52
Weakness of extremities, wrist and forearm	8
Lower extremities	16
Pain in lower extremities	9
Muscle cramps	7
Coarse muscle tremors	1

Abdominal cramps present in 80 per cent of the patients diagnosed as suffering from lead intoxication constitute, with the history of exposure, relatively our most important data. If other obvious causes for the abdominal cramps are absent, we know we are dealing with what is known as a "toxic episode" in chronic lead absorption. When cramps are present we have an acute manifestation of lead intoxication. As a symptom, abdominal cramps rank first in importance. Nausea and vomiting indicate also a "toxic episode" and occur in acute intoxication. Loss of appetite belongs both to the acute or the more chronic state of absorption and intoxication. Constipation was present in less than half the series, probably because patients take cathartics early as soon as the first symptoms are manifest and for this reason they do not complain of and if questioned they probably deny constipation. Bad taste in mouth and weakness are important minor symptoms. Weakness of either upper or lower extremities if present constitute a major symptom of considerable importance.

CLINICAL AND LABORATORY DATA

Table 2.—*Laboratory and Clinical Findings in Percentage*

Lead line on gums	54
Secondary anemia	56
Stippled cells or basophilic degeneration	70
Urinary findings of albumin, casts, white blood cells and red blood cells	60
Peripheral neuritis	6
Coarse muscle tremors	2

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[*] Read before the Industrial Medicine and Surgery Section of the California Medical Association at the fifty-ninth annual session at Del Monte, April 28 to May 1, 1930.

Lead Line on Gums.—It is necessary to distinguish between the bluish cyanotic line present in pyorrhea and poor oral hygiene, and the stippled line indicating lead deposit. A hand lens is necessary for this purpose, and often slipping a piece of white paper behind the margin of the gum is of help. The lead line is most frequently present at the site of pyorrhea pockets; if the teeth are well cared for, it may not be present when other signs of active absorption are found. It may be present as the result of a previous absorption and does not necessarily indicate that absorption is taking place at the time the lead line is discovered. May R. Mayers[1] of the Bureau of Industrial Hygiene, New York, in examination of 381 lead workers for lead line, found thirty-one instances, or 8.1 per cent. Of this number, ten gave no other sign of lead absorption, no lead anemia, no lead in the urine. Lead had been deposited at some previous time when absorption was taking place. There were 201 men in this series who showed laboratory evidence of lead absorption without a lead line. Teleky[2] has reported a lead line in a worker eleven months after being away from all contact with lead.

Secondary Anemia.—Secondary anemia was present in 56 per cent of the series. Pallor of the skin and lips is one of the early, rather striking signs, but it is not an index of the anemia present, as the total reduction in the number of cells and hemoglobin is usually slight. The pallor is considered by Koelsch[3] to be due to the action of lead on the capillaries of the skin. The secondary anemia is not particularly characteristic in lead intoxication. It is usually mild, stippling of the red cells being the most distinctive feature.

May R. Mayers,[4] in her blood studies in lead intoxication, states that one must look at the blood picture as a whole, anisocytosis, poikilocytosis, polychromatophilia, stippling, a relative lymphocytosis, and a slight increase in monocytes. The stippling or basophilic degeneration is one of the most important early signs. It is frequently present before any very definite evidence of anemia is present. One must remember that stippled cells may appear in small numbers in normal blood. It is found in malaria, leukemia, pernicious anemia, cirrhosis of the liver, and in the secondary anemia of malignancy. It is important to know that stippled cells may be intense on one day and practically absent a few days later. Meyer and Speroni[5] call attention to this from their daily observations of stippling during plumbism. It is important to make more than one observation and to prepare and stain the preparations with meticulous care.

Urinary Findings.—The urinary findings of renal irritation are important in our experience. In this series they were present in 60 per cent of the cases. There is nothing characteristic about these findings and they were only of value in conjunction with other symptoms and signs. The finding of lead in the urine may or may not be a sign of active lead absorption. Oliver[6] has found it in the urine eleven years after removal of exposure to lead. It is a valuable minor finding in conjunction with other findings, but the work of R. A. Kehoe and F. Thaman[7] in 1929 indicates that many so-called normal individuals are apparently exposed to enough lead absorption to show traces of lead in the urine. Their experiments on twenty-five medical students showed that a rather high percentage gave traces of lead both in the urine and in the stool.

Peripheral Neuritis.—The so-called "peripheral neuritis" of lead intoxication is one of the major physical signs. The upper extremities are usually involved, especially the well-known "wrist drop." Alcoholic neuritis, arsenic and cervical rib should be carefully excluded. Such a neuritis, accompanied by fever, is probably not due to lead. Coarse muscle tremors are rather unusual, the fine tremor with, at times, even fibrillary twitchings being more common.

COMPLICATIONS

Table 3.—*Listing of Complications*

Bronchopneumonia, eosinophilia, lead	2
Endocarditis (chronic), question as to aggravation	2
Myocarditis (chronic), question as to aggravation	4
Hypothyroidism	1
Optic neuritis	2
Enlarged liver and jaundice	1
Diabetes	2
Tabes and cerebrospinal lues	2
Syphilis other than central nervous system	2
Appendix removed	1
Cystoscopy	1

The bronchopneumonia, eosinophilia, and lead intoxication observed in two cases is extremely interesting. The eosinophilia is probably connected with the bronchopneumonia, having no causative relationship to lead intoxication.

In industry, especially in connection with the Workmen's Compensation Laws, the question of the influence of lead intoxication on chronic residual pathology, especially as to the activation or progression of such pathology, often presents itself. This is particularly true with reference to chronic endocarditis and myocarditis. Lead is a distinctly toxic agent to cellular protoplasm, and it probably does cause some slight acceleration of a chronic myocarditis. Recent studies and investigation appear to indicate that less heart muscle damage, especially permanent danger, occurs than is generally supposed. The older teaching stressed the damage caused by lead to arteries, myocardium, and renal tissue. The endocardium probably suffers little from a moderately severe lead intoxication.

Complications due to the presence of tabes or cerebrospinal lues makes a difficult situation to manage, especially if abdominal pain is present. In this connection it is helpful to know that lead colic, even untreated, seldom lasts longer than five or six days. Under milk and a high calcium diet, with calcium lactate by mouth or calcium chlorid intravenously, the pains clear up rapidly. Where they persist week after week one is suspicious that they are not due to lead. When one encounters abdominal pain persisting, it is important to make thorough gastro-intestinal studies, including gall-bladder visualization, and to perform a spinal puncture, especially if the blood Wassermann is negative.

FINAL DIAGNOSES ON CASES REFERRED AS LEAD POISONING, BUT NEGATIVE FOR EVIDENCES OF LEAD INTOXICATION

Table 4.—*The Negative Lead Cases Showed Following Diagnoses*

Cirrnosis of liver	1
Hypernephroma (possibly lead also)	1
Kidney stone	2
Acute chronic cholecystitis (one case operated)	4
Duodenal ulcer	1
Acute respiratory infection (influenzal type)	3
Alcoholic neuritis	1
Inhalation of illuminating gas	1
Pyelitis	1
Acute plastic pleurisy (right side, and diaphragmatic involvement)	1
Diabetes and hypertension	1
Arthritis of spine, nerve root pains, diabetes	1
Syphilis treated with bismuth	1
Epilepsy	1

Cirrhosis of the Liver.—In this case the patient had been having gastric hemorrhages. The claim was that the cirrhosis was due to liver damage from lead intoxication. The hemorrhages had caused a secondary anemia and there was some stippling and polychromatophilia (both are found in cirrhosis of liver). There was no lead line, no renal irritation, no history of toxic episodes, no evidence of palsy or nervous system involvement. The data obtainable was against lead intoxication, and cirrhosis of the liver explained all of the patient's symptoms and complaints. There was no evidence that lead had played an etiological rôle in the cirrhosis.

Hypernephroma.—This patient and one other patient with a carcinoma of the colon (sigmoid) had a positive history of lead exposure and some evidence of previous lead absorption. The presenting symptoms were abdominal cramps and pain, secondary anemia, weakness, and constipation. At autopsy no pathology was found that could be attributable to lead. Neoplasms were found to which all symptoms could be attributed.

Acute and Chronic Cholecystitis.—Cholelithiasis should be differentiated, as many patients operated upon showed gall-stones. Diagnosis is difficult to decide, especially if there is a history of exposure. Abdominal pain and cramps with gastro-intestinal "upsets," occasionally nausea and vomiting, are the chief complaints. Abdominal cramps frequently usher in a toxic episode in lead poisoning, and a lead line and secondary anemia may not be present early in these toxic episodes. The urine is usually fairly negative in cholecystitis with the exception of traces of bile. Stippling is usually absent in gall-bladder diseases. The patient operated upon was a painter who, although not in contact with lead for four or five years, showed evidences of former absorption. After kali iodidi, we found stippled cells in the blood smears, also traces of lead in the urine. He was seen in an attack in the hospital, and while his pain was distinctly over the region of the colon and all in the lower abdomen, the upper right quadrant was resistant and spastic; there was marked tenderness over the gall bladder. A blood count showed an increase of white cells with 83 per cent polymorphonuclear type. An x-ray revealed the presence of stones. At operation the gall bladder was found full of small stones. This patient had been in a hospital on a previous occasion for three weeks under observation and study, and was dismissed with a diagnosis of chronic lead poisoning. The important point in connection with this history is that abdominal cramps due to "lead colic" should not keep recurring under treatment, unless "stored lead" is being liberated too rapidly. In that case evidence should be found in the blood and urine.

Acute Respiratory Infection.—It is interesting to note that an acute respiratory infection of the influenzal type will often liberate stored lead in individuals exposed to absorption of lead through the fever and heightened metabolism which disturb the acid-base equilibrium. Symptoms of lead intoxication will follow defervescence of the fever, and lead colic may appear during the course of the fever. On the other hand, in some cases of acute respiratory infection we have pain and tenderness over the colon due to the infection, and individuals exposed to lead always attribute these symptoms to their exposure. These patients should be examined carefully and diagnosis not be decided after a ten-minute survey of the case.

Lues Treated With Bismuth.—Another interesting patient in this series was a luetic under treatment with bismuth. He was having headaches and indefinite abdominal pain and discomfort. As he worked in a battery factory, he attributed his symptoms to lead. He had also noted soreness of the gums and, on examination of them with a mirror, noted a "blue line" on the gum margins. Examination showed a "blue line" on the gums, stippled red cells, no renal irritation, no lead in the urine, a positive Wassermann. Bismuth produces a line on the gums, appearing much the same as a lead line. It also produces stippling of the red cells.

Epilepsy.—The one patient in the series with epilepsy gave a positive history of exposure to lead; and stippling of the red cells, with a mild secondary anemia, was found. After protracted treatment and the disappearance of all signs of lead absorption, the "attacks" grew more frequent, entirely disabling the patient. The original idea that his convulsive attacks were due to a lead encephalopathy was abandoned.

Table 5.—*Blood Pressure and Arteriosclerosis*

Low blood pressure (110 systolic or under)	5
Normal blood pressure (110 to 130 systolic)	45
Hypertension mild (130 to 150 systolic)	15
Hypertension moderate (150 to 180 systolic)	5
Arteriosclerosis (definite so that artery could be rolled under finger)	8

Table 6.—*Source of Exposure*

Battery works	30
Paint burning and smelter work	25
Spraying fixtures	1
Painter or paint manufacturing plant	18
Chemical manufacturing plant	4
Wire works	2

This series showed only eight patients with well-marked evidence of arteriosclerosis. The blood pressure estimations show only twenty patients with abnormal systolic pressures, a per cent of twenty-four. Undoubtedly the explanation of the low per cent of abnormal blood pressure readings is the young age incidence. Nearly all of the battery workers were youths.

Table 7.—*Duration of Disability and Length of Treatment*

One month	3
Two months	9
Three to four months	16
Five to six months	11
Seven to eight months	8
One year or more	6

The statistics shown here on duration of disability and length of treatment may seem to indicate undue caution in treatment. Allowance has to be made for the fact that under the Workmen's Compensation Act many of these people tend to protract their symptoms. Wholly aside from this fact, however, we believe that each patient with lead intoxication should be "de-leaded," as far as it is possible to do so, before returning him to work. A man with lead stored in his osseous system is a big potential risk to industry. An attack of influenza, an alcoholic debauch, dietary indiscretions, may shift his acid-base equilibrium and release stored lead into the peripheral blood stream, thus precipitating toxic symptoms and signs. Individual susceptibility to lead, like susceptibility to other poisons, varies markedly and no standardized "rules" for treatment will reduce the length of disability because certain individuals will always require longer and more careful treatment before they are physically able to return to work. It is impossible to "de-lead" an individual entirely, and after a certain period of treatment for lead elimination it is better to give treatment directed toward storage in the osseous system.

TREATMENT

The treatment employed in the majority of these reported cases is adopted from the excellent monograph on "Lead Poisoning," Aub, Fairhall, Minot, and Reznikoff.[8] They have devised a new treatment, based on their experimental observations, that an increased calcium intake or positive calcium balance causes lead to be stored in the osseous system in the form of insoluble lead salts. A low calcium intake—what they term a negative calcium balance—favors elimination of lead from the osseous system.

When acute symptoms are present, as colic, the diet should contain vegetables and fruit (both of which contain calcium), and about one quart of milk daily, with two grams of calcium lactate by mouth. Pain subsides very rapidly. In a very severe colic one may give calcium chlorid intravenously, after which the colic is reported to disappear rapidly. When the acute symptoms have subsided, a negative calcium balance is maintained by a low calcium diet and changing the hydrogen ion concentration of the blood. The low calcium diet contains no fruit, milk, vegetables, or eggs. Acids given with this diet change the hydrogen ion concentration so as to favor elimination of lead from the osseous system. Ammonium chlorid is better than acids, as it is less disagreeable to take. It probably breaks up into hydrochloric acid and urea in the body. One gram should be given about eight to ten times per day. Soda bicarbonate twenty to forty grams per day, can be used with a general diet. Most industrial patients (ambulatory) will not remain on a low calcium diet. Potassium iodid is, perhaps, easier to use than sodium bicarbonate employed in such large doses. Cathartics may be used during the acute stage, but after the acute symptoms subside, it is probably better to use less irritating methods of securing bowel movements as, for example, agar-agar and mineral oils.

COMMENT

The records of one hundred patients referred for diagnosis and in certain instances for treatment of suspected lead intoxication, are analyzed in an attempt to evaluate the symptoms, physical signs, and laboratory data present in the study of this series. The aim has been to bring out the fact there is a difference between lead absorption and lead intoxication; also that certain symptoms and findings are of sufficient relative importance as to be classed as major findings, others of lesser importance to be classed as minor findings. To make a positive diagnosis, one should have two or three major findings and one or two minor findings. It is not justifiable, as a rule, to make a positive diagnosis on one major finding with no minor symptoms or signs, or on two or three minor findings with no major symptom or sign. It seems justifiable to consider as major symptoms abdominal cramps, constipation, weakness of extremities, pain in lower extremities, and probably nausea and vomiting; and as minor symptoms anorexia, bad taste in mouth, muscle tremor, and weakness.

Major clinical findings: Lead line, stippling of the red cells and secondary anemia, muscle palsies, "wrist drop" and urinary findings of albumin, casts, red and white blood cells, cylindroids.

Minor clinical findings: Lead in urine and stool; coarse and fine muscle tremors.

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DISCUSSION

Fred H. Kruse, M. D. (384 Post Street, San Francisco).—It is a most estimable procedure to group and analyze a series of cases that have passed through one's hands in a period of years, and to scrutinize critically the evidence that has been accepted for a diagnosis. I do not know of any malady that requires more careful study in each particular case than so-called "lead poisoning." Generally the acute episodes are clear-cut enough in their manifestations to afford little trouble, but the question of recurrences and exacerbations of former poisoning, the chronic invalidism which many of these patients later assume, and the problem of what may or may not constitute residual pathology due to lead may certainly tax the judgment and discretion of the examiner to the limit.

It is therefore with great personal interest that I have read Doctor Falconer's comprehensive and excellent presentation of the subject of lead intoxication from a critical survey of cases with which he had labored and with which he was familiar on account of opportunities for sufficient observation. Many of the cases reported were seen by me also at that time.

I am in especial agreement with the conclusion that a certain group of symptoms and signs of varying importance must be present before concluding that the disability claimed is due to lead. Stippled red cells, while important, are not alone diagnostic. A lead line on the gums too frequently is shown to be only the purplish discoloration of gingivitis and pyorrhea. While the presence of lead in the urine may be significant, we know that lead may be frequently found in the urine of normal individuals, but the absence of a positive lead urinary test in a patient claiming active poisoning is a most important negative finding.

There are two groups of chronic invalidism who, having once suffered from lead intoxication, or who have been exposed thereto, present themselves as disabilities from chronic lead poisoning, in which it is most difficult to determine the diagnosis as between chronic lead poisoning and other pathology. These are: (*a*) Patients with arthritis and neuritis, with referred abdominal and extremity pain, often showing some joint fixation and muscle wasting and weakness, erroneously diagnosed as lead neuritis; and (*b*) patients with low-grade intestinal disease in which the anorexia, constipation or diarrhea, coated tongue, and abdominal pains from which they suffer are claimed to be due to lead.

In the first group a careful neurological survey will usually show no actual nerve palsies, and prove the muscle impairment and loss of function to be due to the fixation, disuse atrophy, and other manifestations of the arthritis. The finding of much focal infection and a careful history of the onset and course, with the absence of the proper array of Doctor Falconer's major and minor signs and symptoms, will afford a basis for a fair decision.

In the second group I have frequently found gallbladder disease, peptic ulcer, chronic pancreatitis, appendicitis, and spastic or irritable colon, or even colitis as the cause of the abdominal symptoms.

It is therefore apparent that only a careful study of the gastro-intestinal tract and the presentation of a definite cause for the symptoms complained of will settle this issue. Frequently I find that these patients are suffering from a colitis caused by the laxatives they were given with their first treatment and which they have since continued. Gastro-intestinal symptoms from lead should not be indefinitely prolonged, although, of course, exacerbations may occur in patients who have been leaded, with the shifting, for various reasons, of the stored lead in the bones. I think that a slow deleading process should be carried out as far as possible for a period after the acute episode.

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Lester Newman, M. D. (State Building, San Francisco).—The careful analysis of this series of cases of lead intoxication which Doctor Falconer has presented is gratifying. A tremendous number of errors have been made regarding lead intoxication owing to the diversity of conditions which produce somewhat similar symptomatology.

That industry and carriers of industrial and compensation insurance are vitally interested in proper diagnosis, treatment and preventive methods, and in reduction of these lead episodes, is of fundamental economic importance.

Determination of the facts surrounding the incidence of any reported case of lead poisoning and the utmost accuracy of detail of the patient's employment should be on record. The story told by an individual who is financially interested in a positive diagnosis may, without guile on his part, incline toward a positive diagnosis.

Therefore the doctor must often investigate the actual conditions of the individual's work through personal contact before drawing his final conclusions. As Doctor Falconer has suggested, the matter of diagnosis is not one for a ten-minute survey. It is one for involved study. The process of manufacture, the safety methods employed at the plant, the hygienic measures undertaken by the employees, and other allied factors must be taken into full consideration before a conclusion is reached.

Through the investigation of industrial plants and the tabulation of related cases of lead intoxication it has been my observation that poisoning through inhalation is of paramount value. Much stress has been placed upon the absorption of lead through the skin and many safety measures have been initiated to protect against such absorption without due consideration of the inhalation avenue of intoxication. Fortunately at the present time more safety work has been pointed toward the elimination of the latter source of poisoning.

The diagnoses of lead have not been differentiated from constitutional diseases outside the realm of industrial poisoning, which have similar symptoms, with proper care. The placing of too great stress upon abdominal cramps and the possible lead line has been a source of many mistaken diagnoses and has placed upon the employer an unwarranted burden. It is necessary to allocate with absolute accuracy the etiology of a syndrome which has the appearance of a lead intoxication, and as far as is possible the occasion or period of time to which the manifestation of lead poisoning may be charged. The individual may have been working for two distinct organizations and been leaded under both employments, and it is manifestly unfair to burden one employer with an economic debit which is not his own. The diagnostician, therefore, must go beyond the mere compendium of symptoms applying to a lead intoxication and must then determine whether the disability manifested is due to a prior lead intoxication brought to a disabling condition by some intercurrent infection or other agency, or whether it is due to a recent intoxication under the particular employer who is covering the man at the time of examination. While any of the usual findings, such as a lead line, stippled red cells, positive urinary findings, a peripheral neuritis and an abdominal colic are quite suggestive, nevertheless they are not conclusive until they are grouped and analyzed in connection with the other circumstances of employment.

I believe it is essential in the matter of treatment that after the acute condition is taken care of, an effort be made to delead over the extended period of time. This is an obligation of the physician toward the patient and our industrial economic system.

The other big angle of attack in the matter of lead poisoning is through prevention. In this connection I may state that suitable effective work is being done toward the elimination of those conditions which promote the absorption of lead by the Safety Engineering Department of the Industrial Accident Commission and the compensation insurance carriers.

ENDOCERVICITIS—ITS ETIOLOGY, PATHOLOGY, AND TREATMENT*

By Thomas W. Bath, M. D.
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Discussion *by W. M. Edwards, M. D., Portola; C. F. Fluhmann, M. D., San Francisco.*

Endocervicitis may be defined as an infection originating in the racemose glands of the endocervix, or communicated to the cervix by infections from Skene's ducts of the urethra. By reason of such extension into the racemose gland structure, there are produced definite morphologic changes in the body of the cervix, and also irregularities in the contour of the cervical canal. This extension of inflammation along the contiguous columnar cells lining the walls of the glands and their deep ramifications, produces characteristic lobulations within the body of the cervix. Such are called Naboth cysts, after the distinguished Saxon anatomist, Martin Naboth (1675-1721).

ANATOMY AND PHYSIOLOGY

In order to better understand the anatomy and physiology, a brief anatomical and histological review is presented.

The cervix is embryologically derived from the second portion of Muller's duct, while the uterus is derived from the first part. The union of the uterus and cervix is completed at the internal canal. The cervix is centrally pierced with a cylindrically shaped canal, communicating above with the uterus and below, emptying into the vagina. Beginning at about the middle of the canal and extending to the internal os, there is found a plication of the endocervical mucous membrane known as the arbor vitae of plicae palmatae.

The endocervix is coated with a layer of squamous epithelial cells, and is ciliated, especially in its upper part. There is no underlying submucosa in either the cervix or uterus. The mucous lining of the cervix is pierced down through its depth by its racemose glands, and the muscularis of the cervix is likewise penetrated at variable depths by the glands. It has been estimated that, according to size of the cervix, there are from sixty to eighty thousand of these racemose glands covering the mucous surface of the endocervix[1] (Strumdorf). In addition to this great number of glands there are a great number of minute depressions, either round or oval-shaped, appearing in the surface of the cervical mucosa. They are sometimes but one-tenth of a millimeter in diameter, and in their centers appear minute particles of sago-like substance. Their function is evidently simply that of added secretory bodies, designed possibly to give greater pliability to the cervix when in labor. Strumdorf[2] holds that in two per cent of all cases there is a slight extension upward into the lower part of the uterus of the cervical racemose glands, showing that not in all cases is there a hard-and-fast line of cellular limitation.

In about the central part of the canal, which is the narrowest part, there is a beginning change in the type of epithelium from above downward. At the upper part, especially embracing the arbor vitae, the cells are of the high columnar type, fancifully called "picket" type by some. From the middle to the outer portio, this declines gradually into the smoother and possibly harder type of flat squamous epithelium and converges with the epithelium of the vagina.

At this mid-line junction, where the canal is narrowest, there appears something like a modification of the epithelium, which led some of the former day pathologists to consider that cancer was likely to occur at sections where different epithelial types converge from one into another[3] (Hertzler). There is possibly some truth in this statement as applied to cancer of the cervix. In over fourteen thousand persons in the United States, dying of cancer of the female genital organs[4] (Soper), the preponderating majority are within the cervix.

Again referring to the histologic anatomy of the cervix, we must consider the lymphatics which play so important a part in ascending infections of the uterus and adnexa. The lymphatic structure of the endocervix begins in the mucosa, the lymph vessels communicating with the lymph bodies situated in the cervical muscularis. From thence the lymphatics pass upward to the uterus, forming a capillary network and drain into the lymphatic channels which pass along the uterine and ovarian vessels on the top and underside of the broad ligaments, to be carried further on into the lymph stream, emptying into the lumbar glands. We should keep in mind a clear definition of what a racemose gland structure means, with its tubular-shaped outlet and its ramifications or branches spreading out of sight under the mucosa. In the cervix, the racemose glands are called muciparous and here they secrete an alkaline fluid. In the mouth racemose glands secrete ptyalin. In the breast, milk.

The tens of thousands of racemose glands of the cervix, with their superficial and deep lymphatics connecting with the entire uterine, ligamentary, tubal and ovarian structures, will interest us when we speak of the pathology of these parts.

ETIOLOGY

Etiology in Infancy.—Considering the etiology of endocervicitis, we can cite a number of exciting causes. Beginning with infancy, evidently many cases have their origin when the infant has a diarrhea and has its vulva constantly plastered with foul fecal matter. Bacteria at times find entrance into the vulval orifice and thereby set up an inflammation of more or less chronicity. Infectious diseases of childhood with localizations are found in the vulva.

I believe one source frequently overlooked as a factor, is where children receive their baths in the same tub or in the same water with the other children of the household. Personally, I know of an institution where years ago this was the practice. A large number of cases of gonorrhea appeared in the girls of this institution, among girls from one to fifteen years old. The origin of the epidemic was traced to an older girl who had been infected with gonorrhea. It was the custom there to bathe the little girls in tubs with two and three children in the same tub and same water. Following investigation as to the origin, the obsolete institutional bathtubs were taken out and showers substituted.

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* Read at the annual meeting of the Nevada State Medical Association, Elko, Nevada, September 27 to 28, 1929.

Etiology During School Age.—Advancing to the school age, unsanitary toilets of the circular type have been pronounced as disease carriers by reason of some girl carrying a chronic vaginal discharge and contaminating the seat. Much attention has of late been directed to the danger of infection of innocent girls by being compelled to use this type of seat in school or elsewhere; also contamination in households where infection of this nature exists. Indeed so serious is this a cause of endocervicitis that Kelly in his last work in his chapter on leukorrhea, page 222, quotes Flora Pollack, a worker in the gynecologic clinic in the Johns Hopkins Hospital, who says that upward of one thousand girls are infected yearly in Baltimore. If this is true in one city, how many infections of girls must there be in the United States?

Etiology in Adult Life.—Another and frequent cause comes from the lacerations of the cervix in childbirth. Assuming that there has been no specific infection in the case, a torn cervix cannot be considered in any other light than as a diseased cervix. With the possibility of minute bits of fecal matter gaining entrance to the vagina, all manner of irritations, such as *B. coli,* staphylococci, and other bacteria, can easily reach a torn and inflamed cervix, thus producing leukorrhea, the most common disease known to womanhood. The condition is kept active by constant douching with irritating chemicals. Frequently the dirty douche pipe which has been used to produce an enema, with only superficial cleansing, is inserted into the vagina to contact with a torn and excoriated cervix.

Still another contributing cause to endocervicitis is sounding the uterus with a probe when the woman is subjected to table examination. This is a pernicious practice, and unless operative measures are immediately done, an infection of endocervix is already acquired by the patient.

There might be other causes, but we will now consider the greatest of all exciting causes producing endocervical infection. This potent cause is as old as the human race. It evidently had its origin in the days when the human tribe became gregarious for mutual protection.

In spite of any communal laws to protect virginity, there was always some Lothario who, with the burning sex lust setting his blood afire, could find copartnership with some woman as sexually ardent as himself. It always has been so and always will be. There never was any law or decree, human or divine, that could work out to prevent some men and women from breaking the seventh commandment. Our modern social life, with our increased social liberty for both sexes, encourages sex commingling, and with such sex commingling come sexual diseases. Take, for example, gonorrhea, said by some to be the affliction of the Israelites mentioned in Leviticus, fifteenth chapter. Gonorrhea is present in every civilized community the world over. If it were possible to get at facts, I believe it would be found that there are more active cases of gonorrhea in every community than there are of tuberculosis, arteriosclerosis, diabetes, or heart disease.

PATHOLOGY

Assuming that we have enumerated the majority of exciting causes, let us consider, briefly, the pathology which follows when the thousands of endocervical glands become infected. As was said before, the racemose glands penetrate down through the epithelium of the cervix, through the mucosa, and into the muscularis of the cervix. These glands then communicate with the deeper lymphatics, and as this lymphatic network extends upward it bathes the most delicate fasciculi of muscle sheaths in uterus, ligaments, and tubes. It is from the cervical endometrium, and rarely from the uterine endometrium, that infections of the female reproductive organs originate. Research work has put the taboo on the term "endometritis" where such condition is supposed to exist *per se.* Abundant clinical research has most conclusively shown that, in spite of infections in the cervix or tubes, the endometrium is not a germ-harboring tissue that fosters the growth of bacteria. Certainly it can be temporarily contaminated by drainage from a purulent tube, but the anatomic construction of the endometrium shows it to be supplied with shallow placed tubular glands, not of the cervical racemose type.

With the anatomic structure of the cervix understood, likewise the manner whereby infections of the parts are induced, the pathology of the infected structure may be briefly considered.

The first change in tissue when traumatized or infected is the increase of blood cells to the part. Phagocytosis takes place in an effort to engulf and destroy invading bacteria. If the type of bacteria is mild and the insult not repeated, tissue destruction is very slight and function is not impaired. But if the bacteria are virulent, as in the case of gonococci, tissue destruction and loss of function take place to a considerable extent. For instance, witness the one-child mother, who fails to conceive when the os uteri is a teeming colony of gonococci and the fallopian tubes partly or completely destroyed. As a result of impairment to the tubes and with the plug of infected mucus in the cervix, spermatoza are impeded in their upward migration or destroyed. It is this structural change of tissue with partial or total loss of function that we will now briefly consider.

Beginning with the cervix, the openings of many of the racemose glands become plugged up by reason of bacterial irritation. Continued irritation will produce an excoriation of surface epithelium, and in nature's effort to rebuild, if the underlying cell protoplasm of the cell substance is destroyed, nature will then form new tissue to act as a bridge, reaching from one healthy edge of tissue to the other. This new tissue is scar tissue. Scar tissue will always contract and thus the openings of the racemose gland become sealed. The result is that the gland is not destroyed, but continues to secrete, distending every one of its ramifications, and producing the lobulation seen and felt in the body of the cervix. These lobulations are called Nabothian cysts.

The size of the infected cervix will depend upon the number and size of these cysts. Sometimes we see a cervix, especially in the torn cases, that will fill the upper fornices of the vagina. But not all of these thousands of racemose glands become plugged. Those remaining open will, by the pressure exerted upon them by their neighboring cysts, secrete more excessively. Also as a result of the bacteria lodged in their lumen, there is naturally produced a hypersecretion. This excess secretion becomes permeated throughout with more or less virulent cultures of bacteria and, as Curtis [5] has proved, one-third of all patients having purulent leukorrhea have virulent streptococci. Leukorrhea is then the danger signal that should warn obstetricians and surgeons that frequent examinations in childbirth, in the presence of traumatized tissue, will partly help account for the twenty-five thousand deaths occurring yearly in the United States in childbed. The abdominal surgeon should be aware that there is ever present the possibility, when operating upon the uterus or tubes, of encountering a dormant colony of virulent streptococci, which, when liberated by the knife, will be released into the patient's circulation with deadly results. Ochsner and Percy [6] state that in hysterectomy the surgeon should be careful, in sponging the surface of the uterine stump, not to carry any infectious material in the mucous membrane lining of the stump to the other portions of the abdominal cavity. This sensible surgical suggestion came about as the result of experience, possibly dearly acquired. My own belief is that prior to every supravaginal hysterectomy the canal should be previously sterilized with the actual cautery.

Following the mechanical blockade of the cervix by reason of distended cysts, stasis is produced all along the line of contiguous tissue. The blood vessels and lymph currents become tortuous and impeded in their function. The result is about the same as though you tied a ligature around your leg or arm. What would follow? Impeded circulation, serous exudate into the part and, eventually, more or less destruction of tissue, with loss of function. When chronic stasis is acquired, naturally there follows hypertrophy of tissue with more or less fibrosis. This accounts for the boggy womb felt in doing a vaginal examination. It also accounts for much of the backache in women when their posterior uterine ligaments are congested and a localized neuritis exists. Circulatory stasis of tubes and ovaries will often produce congestions in those structures with a low grade type of pelvic tic douloureux frequently associated with dyspareunia. The old term "pelvic cellulitis" still holds good. A boggy, hypertrophied uterus, likewise ligaments and tubes, is a pathologic condition. One of the serious abnormal conditions produced is the limitation of the uterine contractions. By means of constant rhythmic contractions, always present in the uterus, the normal nutritive functions of the uterus are carried on. To quote Strumdorf: [7] "The specific functions in menstruation and gestation demand a wide range in the control of its blood supply, and, like the heart, the uterus automatically responds to its fluctuating circulatory necessities by rhythmic contraction and dilatation, not only during pregnancy, but throughout its functional existence."

This hypertrophy produces muscle degeneration of the uterus, in other words, a fibrosis. This important etiologic fact will undoubtedly account for the frequency of miscarriages in women with this condition, where syphilis or gonorrhea does not exist, and quite possibly, placental adhesions also. The normal soft bed of the uterine mucosa is transformed into a tough fibrous membrane, so that when the chorionic villi endeavor to implant themselves down into the uterine substructures, they encounter a layer of what might be called hard pan. Thus deprived of nutrition, miscarriage, or placental adhesions, take place by reason of nonnutrition of the mucosal bed.

When bacteria are carried upward in the lymph stream, an abscess may occur almost anywhere in the adnexa. The abscesses may form in the uterine wall, in the folds of the ligaments, or in the culdesac or tubes. These abscesses all originate from the foci implanted in the endocervix. They are the result of an infected blockade having their origin in the lower stratum of the genital organs.

Take the case of recurring tubal inflammations. The tubes are considered as free of the gonococci in about two weeks after fever and leukocytosis have disappeared. But if the woman receives intercourse, especially with an infected partner, the seeds of disease are thus constantly resowed in the cervix and urethra and, accordingly, there arises a fresh batch of bacteria to travel upward through the usual route and set up a new cycle of fever and leukocytosis in the tubes. After repeated gonococcal attacks of the tubes both ends of the tube may seal up, and then under heat, moisture and bacterial infection, localized necrosis takes place and a pus tube is produced. Pus tubes then are nothing more than the result of repeated autoinfections originating in the cervix or urethral racemose glands. When these inflammatory exudates appear anywhere in the uterine littoral, we have learned through experience not to be too hasty to do radical surgery in the upper pelvic region. Instead of opening the abdomen and removing everything that looks inflamed, it would be better to remove the cause and establish drainage. The cause will be found in most cases to be an infected cervix or urethra, or both. Whatever operative method is applied to the cervical area, whether it be actual cautery, radium, or Strumdorf's cone excision, the complete destruction of infected racemose glands in the cervix is necessary. If found in the urethra, similar treatment, together with canal drainage, will be in order. Amputation of the cervix, initiated a century ago, is not to be considered, especially in the period of child-bearing. The above operative methods, coupled with rest in bed, protein therapy in selected cases, and absence of copulation, especially if the partner carries an urethral infection, will, in the majority of cases, effect a cure as far as may be possible.

CURETTAGE

In closing I wish again to dwell with emphasis upon the needless and destructive operation of curettage which has become very popular with both the laity and general practitioners. I once heard one of America's foremost surgeons say that this useless operation, so commonly done, has a tendency to send the patient into early menopause by denuding the uterus of its mucosa. Curettage, I have often thought, is but a shield to hide the ignorance of the surgeon who has not had his attention called to the need of centering his endeavor to the area where the trouble began. How can the curette cure a condition in which the uterus is in a condition of pathologic stasis, with ligaments and tubes that are distorted and functionless, and where a fibrous condition not only has replaced the normal contractility of the uterus, but where the pampiniform plexus is one mass of varices with possible infected thrombi? Will a blind scraping of the corrugated uterine mucosa produce a cure? And further, in the earlier stage of the pathology, should curettage be done? For what cause would you curette the endometrium, unless for diagnosis with the thought in mind of an immediate follow-up operation if such were necessary? To tear the uterine mucosa into shreds in the belief that it will effect a cure, where the real cause is afar off, is a most senseless and wicked procedure. Commonsense and science both cry out aloud to keep the murderous curette out of the uterus. *The endometrium is the sacred soil of human genesis.* It is the holy of holies of the female body, and as such should not be invaded without cause.

We conclude by saying that pelvic surgery for inflammatory lesions resulting through endocervicitis will be greatly modified in the future, because the surgical mind will learn more concerning the causes. Proper treatment directed to the cervix, coupled with the advice of Curtis, "absolute clinical conservatism" will keep many women on this earth instead of bringing about too early a transformation into the angels to which they are all eventually destined to become.

SUMMARY

1. Endocervicitis is the result of infection originating in the racemose glands of the cervix or urethra. Bartholinitis is always secondary.

2. Leukorrhea is the result of endocervicitis, and may be either gonorrheal or nongonorrheal in character.

3. Age and social position should not deter the physician from making a clinical examination of the patient. Gonorrhea may exist in the very young and in the advanced middle-aged; in the rich or in the poor.

4. The cervical blockade, induced by endocervicitis, causes stasis of all the organs reached by contiguity or blood and lymphatic circulation. Stasis of the musculature, too long continued, may produce fibrosis of the uterus with degeneration of the endometrium. Undoubtedly many miscarriages occur as a result of uterine fibrosis of varying degree and, possibly, placental adhesions at times.

5. Uterine stasis produces circulatory congestion in tubes and ligaments, predisposes to many ills, induces neurosis, barrenness, and abscesses.

6. Surgical measures attacking the upper pelvic region should be secondary to surgical measures directed toward the infected cervix and urethra.

7. Curettage, as commonly practiced, is unscientific and harmful. Rest, physical and sexual, coupled, if need be, by rational medical and surgical therapy, with reasonable time for absorption of inflammatory exudates, will, in the majority of cases, give results satisfactory to patient and physician.

Reno, Nevada.

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DISCUSSION

W. M. **Edwards**, M. D. (Portola).—The frequency with which one encounters endocervicitis in general surgical practice, the chronicity of its course, and the twin factors of treatment and reinfection, all are parts of a complex problem.

Because of the extremely complicated anatomy of the cervix, infecting organisms burrow into and invade the depths of the glandular structure.

Once the cervix is thoroughly infected, local treatment practically resolves itself into a matter of destroying the infected pockets and promoting drainage by some electro-cauterant, electro-incisional, or diathermic treatment.

Generally it is necessary to repeatedly do one or more of these procedures.

Finally, endocervicitis is a disabling disease during the sexual life of the victim, and we must squarely face the problem of controlling the patient's sexual existence over a considerable span of months.

Failing in this there becomes established a vicious circle of infection and reinfection, with extensions to other parts of the genital tracts in both the woman and her male partner.

This constitutes a very real menace.

C. F. Fluhmann, M. D. (Stanford University Hospital, San Francisco).—The infections of the cervix uteri, as Doctor Bath has pointed out in his article, are a very important clinical manifestation of pelvic inflammatory disease. Although I question very much whether the actual pathologic process in the cervix itself can lead to many changes in the body of the uterus, there is no doubt that it is the most important portal of entry for bacteria in their invasion of the parametrium and the uterine appendages.

The inflammatory reactions of the cervix uteri are of great interest and lead to various abnormal epithelial proliferations which have been the subject of extensive investigation in the Stanford gynecological laboratory during the past few years. These formations are of considerable importance in dealing with the incidence of cancer in this organ, and it is generally stated that neglected cervical infections furnish the "irritation" factor which frequently leads to the development of malignancy.

The indiscriminate use of the curette in the treatment of "leukorrhea" is very much to be deprecated. It must be remembered, however, that this operation is of invaluable assistance in the diagnosis of functional changes in the endometrium in cases of abnormal uterine hemorrhage.

EPINEPHRIN AND RELATED DRUGS*

CIRCULATORY RESPONSES THERETO AND MODIFICATIONS BY LOCAL ANESTHETICS

By M. L. Tainter, M. D.
San Francisco

The use of cocain as a local anesthetic is frequently accompanied by alarming reactions and even fatalities. The varied symptomatology of these responses indicates complex systemic actions of the cocain. These systemic alterations are not necessarily accompanied by marked symptoms, and therefore may attract little interest until attention is forced on them by a serious reaction. In addition, the sudden, unpredictable occurrence of the reactions, the apparent lack of correlation with the amount of cocain used, and the futility of certain remedies tend to create a rather fatalistic attitude among surgeons toward these side actions. The proper handling of these emergencies must rest on an appreciation of the mechanism of the reactions, and of measures with which they may be treated.

Studies during the last five years in our laboratory have brought out certain new facts which bear on these problems, and it may be in order to summarize briefly these results insofar as they bear on the present topic. In a word, they show that cocain causes complex alterations in the responses of the circulation to certain stimulants, and these alterations in turn indicate fundamental neuromuscular derangements.

In 1910 Fröhlich and Loewi[1] observed that cocain increased the blood pressure response to epinephrin. This was left unexplained and attracted little attention at the time. Since epinephrin is a specific stimulant of the sympathetic nerves (myoneural junctions) and cocain affects the epinephrin action, in otherwise ineffective doses, the increase of blood pressure is due to a sensitization of cocain on the sympathetic nerves. In 1925 the author[2] discovered that cocain not only increased the pressor response of epinephrin, but simultaneously diminished or abolished that to tyramin in the same animal. Before that time tyramin was supposed to act nearly identically with epinephrin. However, this contrast in the actions of these two drugs in the cocainized organism immediately indicated that the sites of their circulatory actions were different, and this difference was revealed through an otherwise ineffective dose of cocain. It showed, further, that the actions of cocain were more complex than had been suspected, since it could simultaneously sensitize and desensitize to similarly acting compounds. The exact mechanism of action of these compounds need not be considered here. Since the initial work, the sensitization-desensitization phenomena have been applied by several investigators to the study of many of these drugs such as ephedrin, phenylaminoethanol, synephrin, etc.

DESCRIPTION OF THE SENSITIZATION-DESENSITIZATION PHENOMENA

In a typical experiment the changes in blood pressure and pulse rate from epinephrin and ephedrin (or other pressor drugs) in a cat or dog are recorded, and then a small dose of cocain is injected subcutaneously. After allowing about fifteen minutes for absorption, the control doses of the two pressor agents are reinjected. The rise of blood pressure from epinephrin is greatly increased in height or duration, or both, and the usual increase in pulse rate is still obtained. But ephedrin now causes little or no effect on either blood pressure or pulse rate. In other words, epinephrin responses are sensitized while ephedrin is desensitized or abolished.

By injecting other compounds, sometimes classed as sympathomimetic amins, in cocainized animals it was found that those drugs which are most closely related chemically to epinephrin, such as the synthetic racemic, dextro- and levo-epinephrin, epinin, and adrenalon, were all similarly sensitized,[3] whereas tyramin,[2] ephedrin,[4] pseudoephedrin,[5] phenylaminoethanol,[6] and other compounds less closely related but classed in this group, were desensitized. Of great interest was the fact that synephrin, the latest of these substitutes, was neither sensitized nor desensitized, but retained its circulatory actions unaltered by cocain.[3]

These altered reactions were not confined to the smooth muscle of the blood vessels, but appeared also in other smooth muscles. Thus, the response of the intestine *in situ* has been shown to be altered simultaneously with the circulatory responses.[2] Similar results with excised intestine have been obtained in experiments now in progress. An antagonism between the broncho-dilator actions of the epinephrin substitutes and cocain has recently been reported.[7]

The dose of cocain required to cause these changes was somewhat variable, as little as five milligrams per kilo having been effective, and fifteen milligrams per kilo being uniformly so. It is not known how long the sensitization may persist, but it has been observed as long as three hours after a single administration of cocain in anesthetized animals. This is a considerable period of functional alteration. A point which must be emphasized is that these doses of cocain might not ordinarily be considered toxic, since they caused little or no change in either blood pressure, pulse, or respiration.

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*Read before the Anesthesiology Section of the California Medical Association at the fifty-ninth annual session at Del Monte, April 28 to May 1, 1930.

Of the local anesthetics thus far studied, cocain has been the only one to cause persistent alterations after subcutaneous administration. Procain, butyn, and saligenin did not alter the circulatory response in a similar manner, when injected subcutaneously.[2] However, it has been reported by Eggleston and Hatcher[8] that procain, B-eucain, apothesin, and certain less important anesthetics do sensitize to epinephrin upon intravenous injection. The sensitizing effects of these local anesthetics on the circulation must be very fleeting, and, as far as we know, nothing has been reported as to their effects on the responses to the other amins. It is hoped to obtain more data on the relative actions of these local anesthetics in future.

MECHANISM OF THE DESENSITIZATION BY COCAIN

The mechanism of the sensitization by cocain to epinephrin has already been discussed in the first part of the paper.

The mechanism of the desensitization is even more interesting and important, although not yet completely understood. Certain pharmacological proofs may be cited. The pressor response to barium, a powerful muscular stimulant, in definitely effective doses is not altered by cocain. The vasoconstrictor action of weak concentrations of barium on the blood vessels of excised organs is abolished or reduced in about one-half the experiments.[2] Since barium stimulates the smooth muscle of the vessels independently of their innervation, this shows that the muscle, when weakly stimulated, is sufficiently depressed by the cocain to prevent its usual responses. The same is true of the comparatively weak muscular stimulants, tyramin,[2] phenylaminoethanol,[6] and ephedrin.[4] These drugs exert typical pressor actions in ergotoxinized animals in which the sympathetic vasoconstrictors are paralyzed. This, of course, correlates with the complementary proof in cocainized animals in which they act differently from epinephrin. That the vascular muscle is not paralyzed is seen from the facts that strong barium stimulation and indirect stimulations by epinephrin cause the usual or increased rises regularly after cocain. This difference between the efficiency of strong and weak stimulants is illustrated time and again in pharmacology. In the case at hand, it simply means that cocain, in otherwise ineffective doses, does poison (depress) sufficiently the smooth muscle or receptive mechanism of the blood vessels so as to make it incapable of responding to weak stimulants; in other words, a sort of vascular "shock." Changes in the functional activity of the cardiac muscle were not the basic causes of the altered responses by cocain, since the high pressures after epinephrin could scarcely have been produced with a heart muscle so depressed as to be unable to withstand the smaller rises from the desensitized amins; that is, the heart was capable of functioning even better than before, against the increased peripheral resistance. Moreover, electrocardiographic studies[9] showed that the doses of cocain used to produce the usual sensitization-desensitization phenomena did not alter the intrinsic nerve mechanisms or muscular responses of the heart, as mirrored in the electrocardiogram.

Central vasomotor actions were readily ruled out since destruction of the brain and spinal cord did not interfere with or prevent the alterations in the circulation caused by cocain.[2 4] Of the peripheral sympathetic nerve mechanisms, *i. e.,* the nerve trunks, endings and myoneural junctions, none is demonstrably depressed, matters that were determined by electrical stimulation of the splanchnics, and also with epinephrin, as already mentioned. Therefore, as the result of direct and indirect tests along different lines it is concluded that the probable seat of the cocain-desensitization of the pressor responses of ephedrin and other amins is, in part at least, in the smooth muscle of the blood vessels, the action being in the nature of a depression or "shock" of the muscle, while the vasomotor nerve endings are made more excitable. Thus, there is a peculiar mixture of depression and apparent excitation of the peripheral neuromuscular mechanism of the blood vessels throughout the body. It is clear that absorbable doses of cocain quickly cause a sustained modification of important bodily functions with potentialities for harm to the organism.

So far as the seat of ephedrin action is concerned, certain authors[11 12] have recently expressed contrary opinions, or doubted the significance of my data for a muscular stimulation. Unfortunately these opinions are rendered untenable by a failure to give adequate and critical consideration of established evidence; these will be dealt with separately.

CLINICAL APPLICATIONS

This complex combination of actions is not only of theoretical interest, but has a direct clinical application, since it always occurs whenever cocain is absorbed, even in otherwise ineffective doses, as in local anesthesia. If a circulatory stimulant should be needed during a reaction accompanying local anesthesia with cocain, the use of epinephrin might be dangerous because of the greatly increased pressor response that will be obtained. The latter might result in sudden cardiac dilation or in apoplexy and thus aggravate the collapse; and the violence of any systemic symptoms from epinephrin would be increased. Resort to one of the epinephrin substitutes would be futile, since either tyramin, ephedrin, or phenylaminoethanol would be ineffective. As far as

I know, the only available compound of this group which would exert its actions unaltered is the new one, synephrin.

Attempts to avoid the toxicity of the cocain-epinephrin combination, used in the nose and throat, by substituting some of the other vaso-constrictors is also unpromising, since the local vaso-constrictor power of ephedrin and phenylaminoethanol in the nose is lost in the presence of cocain,[10] just as it is on systemic administration. Similarly, the asthmatic type of reaction in cocain poisoning could not be adequately treated with ephedrin, since cocain antagonizes bronchial muscle responses as well.

Thus, it is seen that what was originally only an interesting pharmacological experiment has important fundamental bearings on the exact determination of the seat of action of the so-called "sympathomimetic" amins, and also strong clinical implications.

CONCLUSIONS

1. Cocain, but not procain, butyn and saligenin, injected subcutaneously in doses (5 to 15 milligrams per kilo) corresponding to those used in infiltration anesthesia, profoundly modifies the circulatory responses to epinephrin, ephedrin, and related drugs.

2. The modifications consist of sensitization, desensitization, or complete abolition, of the circulatory responses (blood pressure and heart rate), according to the drug used.

3. Cocain also modifies the responses of the blood vessels (nose, etc.) to vasoconstrictor drugs after local application, and of the bronchi to bronchodilator agents used systemically.

4. These phenomena are possible whenever cocain is absorbed, even in otherwise ineffective doses, and are of importance in the systemic reactions of cocain poisoning, and in treating accidents of local-anesthesia.

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AGRANULOCYTIC ANGINA*

REPORT OF CASE

By S. Kahlstrom, M. D.
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Discussion *by Arthur M. Hoffman, M. D., Los Angeles; Albert Soiland, M. D., Los Angeles.*

AGRANULOCYTIC angina is an acute systemic disease of unknown etiology, characterized anatomically by leukopenia, a pronounced reduction or total absence of granular leukocytes in the blood and hematopoietic organs, and an ulcerative or gangrenous inflammation of the buccopharyngeal membranes; clinically by hyperpyrexia, asthenia, and, commonly, an early fatal termination.

HISTORY AND LITERATURE

If we look back upon the literature of former decades, we find as early as 1880 that anginas were mentioned which were marked by the necrotic character of the pharyngeal tonsils and their surrounding tissues, and which terminated fatally for the patients. These anginas were differentiated from diphtheria even at that time. We are reminded of case reports by Wheit in 1885, Cohn in 1893, Noltenius in 1900, Schwarz in 1904, Turk in 1907, and Marchand in 1913, which presented pictures which today are recognized as agranulocytic angina.

It was not, however, until November 1922 when Werner Schultz presented his series of five cases in considerable detail, designating the disease as agranulocytosis, that the medical profession became conscious of the presence of a new clinical syndrome or entity. Since that time reports and discussions have appeared in the literature with increasing frequency under the heading "Agranulocytosis," as used by Schultz, or "Agranulocytic Angina," as used in 1923 by Friedmann. Thus, while in 1922 only one article appeared, there were three in 1923, four in 1924, eleven in 1925, eleven in 1926, twenty-eight in 1927, and nearly forty in 1928. These articles have appeared in the order of frequency from the following countries: Germany, Austria, United States, Canada, France, Netherlands, Italy, and Sweden. No cases seem to have been reported in Great Britain.

In surveying the literature I have collected 168 cases reported as agranulocytic angina, and in the bibliography to this article cite the names of the authors who reported the same. No claim is made of an exhaustive analysis and report of literature, for references to many an article were obtained which were inaccessible, particularly foreign contributions. Could these reports be included, the number of published cases would undoubtedly exceed two hundred.

However, not all cases reported as agranulocytic angina can be accepted as such. Thus, as has been previously pointed out, one of Kastlin's cases was an acute arsphenamin poisoning, and Allan's case with thrombocytopenia and purpura hardly fall within the category of agranulocytic angina.

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REPORT OF CASE

P. R., a miner, age seventy, entered the Santa Fe Hospital at Los Angeles November 27, 1928, complaining of burns of both feet sustained almost three months previously while working in hot sand barefooted near Death Valley. Treatment by local physician with ointments and hot compresses had been futile. Previous illness, typhoid fever. No accidents or operations. Habits were moderate. Diathesis was negative for tuberculosis, malignancy, or blood dyscrasias. Further questioning as to symptoms of systemic disease proved futile.

Physical Examination.—A well nourished and developed white male with an apparent vigor and vitality exceptional for his age. Temperature, pulse, and respiration were normal. Blood pressure, 206/120. The eyes showed arcus senilus, but the pupils were regular and reacted to light and accommodation. Teeth were in a poor state of repair, and oral hygiene was poor. No chest pathology. No evidence of cardiac hypertrophy or dysfunction was detected. There was a moderate amount of arteriosclerosis of the peripheral vessels. The abdomen, genito-urinary tract, and skin were negative. No adenopathy. Superficial and deep reflexes reacted normally. Examination of the feet showed the distal phalanx of the fourth right toe missing, a second degree burn on the medial surface of the right third toe, and absence of the nail from the left fifth toe. The skin on both feet was somewhat parched; walking was quite painful.

The laboratory reported a hemoglobin of 100 per cent, a leukocytosis of 23,000 with 82 per cent polymorphonuclears; a urine free from albumin, sugar, casts, or pus; a blood sugar of 93 milligrams, and a negative Wassermann.

Treatment consisted of antipyrexol dressings, potassium iodid, grains 15, three times a day, and Buerger's exercises.

Progress was somewhat slow, but on the whole satisfactory, the temperature remaining normal and the burns improving.

On January 12, 1929, forty-seven days after the patient entered the hospital, he developed a temperature of 102 degrees and complained of a sore throat. Inspection revealed a marked redness and inflammation of the throat with a white, greenish exudate high in the left tonsillar fossa. A complete blood count was done and the following report returned: hemoglobin, 86 per cent; red cells, 5,240,000; leukocytes, 3300, with 100 per cent lymphocytes. The urine contained acetone and diacetic acid. On the sixteenth the white count was repeated. The report was 3000 with 100 per cent lymphocytes. A throat culture was negative for diphtheria and *B. pyocyaneous*. The temperature ranged from 100 to 102 degrees.

By January 18 the exudate, which was fairly well localized to the left tonsil, had become ulcerated and more than triple in size. The gums and left buccal membranes were involved with white patches. The sclera had an icteric tinge. The patient was toxic and in an evident critical condition.

A blood count was done again on the nineteenth, revealing a hemoglobin of 67 per cent, 900 leukocytes with no granlar cells seen. The platelet count was 320,000. The blood culture was negative. The patient was now deeply jaundiced and comatose. The temperature dropped to 96.6 degrees, and he expired the same night, eight days after the onset of the acute condition.

Treatment was symptomatic throughout the course of the agranulocytic angina, with gargles, mercurochrome swabs, and antipyretics. Leukocytic extract was administered daily intramuscularly during the last five days. Three-tenths gram of neoarsphenamin was given intravenously the day before the patient's death.

Autopsy was performed by the county coroner, who rendered the following report: "The body was very yellow on exterior. Heart and lungs were negative. Liver and gall bladder and kidneys were not diseased. The spleen was moderately large and firm, with white pinhead-sized spots on capsule. Cause of death: Agranulocytic leukemia associated with ulcerative tonsillitis and pharyngitis; possible contributory factor, second degree burns of feet."

Sections were obtained from the bone marrow of the middle one-third of the femur, the liver, spleen, and kidneys, which had one common denominator: no granular cells were to be found in any section. The bone marrow was yellow and fatty, showing no cellular reaction whatever, and a dearth of granulocytes or their prototypes. The kidneys were quite normal except for cloudy swelling. The liver showed small areas of necrosis with lymphocytic, but no granulocytic infiltration, in addition to cloudy swelling. The spleen showed an exaggerated number of reticulo-endothelial cells in the sinuses, but no polymorphonuclear leukocytes could be found here either.

COMMENT

This case is unique in that it occurred during hospitalization for another ailment, only four similar cases having been reported previously. With one exception, this patient was the oldest of any reported cases afflicted with agranulocytic angina. It is further interesting to note that upon entrance to the hospital the patient possessed a normal mechanism of response to infection, carrying a leukocytosis of 24,000 with a normal percentage of granular cells, thus disproving one theory that agranulocytic angina is due to congenital hypoplasia of the bone marrow with consequent inability to ward off infection.

ETIOLOGY

The exciting cause of this malady is not known. Females are more susceptible than males, the ratio of morbidity being 3.8:1. The majority of cases are middle-aged, between thirty to fifty. The mathematical mean was forty years of age in this series. The youngest patient was a boy four and a half years old, the oldest a man seventy-nine. Season and climate do not appear to exert any influence. Heredity seems to play no part, although Hart reports two cases occurring in sisters. All evidence points against any epidemic or contagious element. One attack apparently does not confer immunity, for a case is on record where the patient recovered from a first attack only to succumb to the second two years later. Generally rundown, weakened conditions, and previous diseases, the most common of which are rheumatism and arthritis, must be considered as predisposing causes.

Many adhere to a bacterial origin. Positive blood cultures were obtained in 12 per cent of cases here reviewed, in the following order of frequency: streptococci (30 per cent), staphylococci (20 per cent), *B. pyocyaneous* (20 per cent), pneumococcus (15 per cent), Friedlander's pneumobacillus (10 per cent), and *B. coli* (5 per cent). *Bacillus pyocyaneous* and *B. staphylococcus aureus* from two patients, injected into rabbits, caused death in two days. *B. pyocyaneous* from another produced a leukopenia in rabbits. But the clinical picture cannot be produced by intraperitoneal injection of whole blood into guinea-pigs; neither will the exudation of the ulceronecrotic lesions of the throat of patients, placed on the tonsils of rabbits, produce the lesion.

Adherents to the theory of bacterial origin believe the syndrome represents an atypical reaction of the hematopoietic system to septicemia, due either to bacteria with a specific affinity and toxicity to the granulocytic system, or to an atrophy or hypoplasia of this organ because of septic infection. This bacterial cause may be nonspecific, or specific: *B. pyocyaneous*, streptococci, or fusospirilli.

Sundry other theories as to pathogenesis exist. Some students attribute the unknown cause of the leukemias to that of agranulocytic angina. Duke considers it a manifestation of aplastic anemia. Aubertin believes the agranulocytosis due to a degeneration of the medulla as the producing center of granular leukocytes, this degeneration in turn being due to some unknown toxin. Friedmann is probably alone in his contention that it is due to an endocrine disturbance. He also suggests that the pathogenicity for the two sexes may differ.

PATHOLOGY

The tissue changes found in agranulocytic angina are quite constant. Indeed, Schultz contends that this is a separate and distinct disease entity, basing this contention on the uniformity of the pathological findings.

There may be only a few superficial ulcers on the tonsils, or there may be extensive, multiple, deep gangrenous lesions involving not only the membranes of the buccal and pharyngeal cavities, but those of the entire gastro-intestinal tract. An ulcerative colpitis is also commonly present. Campbell reports a case where ulcerations were found surrounding the anal orifice only, while Murphy describes one patient who presented no ulcers during life. These, however, are the exceptions. The ulcers are usually covered with a grayish white coat, often closely resembling a diphtheritic membrane.

The inflammatory sites wherever found have a similarity of appearance. Microscopically, we will find superficially a necrotic, granular material intermingled with numerous bacteria. Looking deeper, we notice the cell outline intact, but streak-like accumulations of bacteria may be found in the intercellular spaces. The vessels are often thrombotic, containing hyalin, fibrinous material, or clotted blood, in which the absence of leukocytes is striking. Smaller and larger accumulations of lymphocytes and plasma cells may be present in varying numbers, but only rarely, if ever, will we find any granular cells about the ulcers.

The gangrenous pharyngeal process is now generally accepted as being secondary to the disease of the leukopoietic system, the lack of neutrophilic cells causing a deficiency in the tissue resistance. This is quite strikingly confirmed in Bantz's cases, the anamnesis of two of them indicating a considerable fatigue for two weeks, while a pharyngeal process was lacking. Murphy's case further substantiates this view.

Subpleural hemorrhages are not uncommon. Fibrinous exudate may cover the pleura in places, in which dark red, solid, irregular small foci are present in the lung. Such areas are quite regularly found, especially in the lower lobes, which may also show hypostatic pneumonia. The capillaries of these solidified parts are hyperemic; the alveoli are filled with red blood cells and in places with bacterial masses. Adjacent alveoli contain an albuminous or fibrinous material. The absence of leukocytes in the foci is most striking.

The liver is often slightly enlarged with evidence of cloudy swelling. Microscopically varying degrees of fatty degeneration, multiple focal necrosis, and a proliferation of Kupfer's cells exist.

The spleen also is frequently somewhat swollen. It is generally dark red and firm, rarely soft as in septicemia. The lymph follicles are not prominent on the surface. There is a hyperplasia of the sinus endothelium at the expense of the lymphocytic tissues, the endothelial cells comprising as high as 90 per cent of the entire splenic substance. Cells which give a positive oxydase reaction are not found.

The kidneys commonly show only signs of cloudy swelling, with hyperemic glomeruli, degeneration of the tubular epithelium, and the tubules filled with casts. Occasionally severe kidney damage is found with many bacterial emboli throughout the cortex, but with no evidence of inflammatory changes.

Very striking changes are found in the bone marrow. No cellular response toward the lack of cells is found, as in the leukemias. Instead we find a persistent dearth of cells positive for the oxydase reaction. Erythroblasts and megalokaryocytes are present in approximately normal numbers. That this finding is not due to postmortem, or even agonal changes, was proven by Zadek, Schultz, and Jacobowitz, who removed bone marrow from the sternum during the height of disease which gave the same findings.

SYMPTOMATOLOGY

The onset is usually quite sudden, although it may be very gradual, the prodromata lasting weeks. Malaise, prostration, asthenia, and hyperpyrexia ranging from 101 to 104 degrees, are the common initial symptoms. The fever is maintained throughout the course of the disease with few remissions. Simultaneous with the fever, or a few hours following the same, the patient complains of a sore throat and dysphagia. Inspection of the mouth and pharynx reveals ulceromembranous lesions, not unlike diphtheria in appearance, but with no uniformity as to location, size, or depth. These areas spread with considerable rapidity, often involving the hard and soft pallate, gums and tongue, as well as pharynx.

Some have reported a mild cervical adenopathy, but in the majority of cases no enlargement of the lymph glands is found.

About half of the cases develop jaundice, in varying stages of the disease and of varying intensity. I have not found any reported recoveries of patients who have developed jaundice.

The characteristic finding is obtained in the blood count. A striking leukopenia is encountered from the first, commonly increasing from day to day throughout the course of the disease. The lowest count is reported by Schultz, who could find no leukocytes in one case; the highest count was reported as 10,000. The average lowest count obtained is 1500. The differential count reveals a pronounced decrease in the polymorphonuclear cells. Quite often no granular cells can be found whatsoever. Rarely no neutrophilic cells are encountered, whereas eosinophils may be found in small numbers (one to two per cent). The average percentage of granular cells is five, lymphocytes constituting practically exclusively the cytologic formula. No immature forms of leukocytes are found in true agranulocytic angina. The red cells and hemoglobin are not remarkable, often remaining present in normal proportions throughout. Commonly, however, there is a drop toward the termination of the disease. The thrombocytes also remain unaffected throughout the disease. No hemorrhagic tendencies are encountered.

The disease is usually of short duration. Nine days is the average in this series for those cases which terminated fatally. Two days was the shortest period, thirty days the longest. The duration is much longer in those patients who recovered, thirty-five days being the average.

DIAGNOSIS

The diagnosis is easily established if one bears the condition in mind and calls for a blood count routinely in all cases of sore throat. The hyperpyrexia, the ulcerative buccopharyngeal lesions, the leukopenia with diminution of the granular cells, and the normal platelet count can hardly fail to establish the correct diagnosis in the average case.

In those rare cases where no ulceration of the membranes occur, or where they occur in atypical locations, the diagnosis will have to rest largely on the blood findings alone.

DIFFERENTIAL DIAGNOSIS

1. *Diphtheria* is perhaps most commonly confused with agranulocytic angina. The confusion is the more common because *B. pyocyaneous* is so frequently recovered in cultures from the throat which, in degenerated forms, may closely resemble the Klebs-Loeffler bacillus. Differentiation is readily made by a Gram stain, the *B. pyocyaneous* being Gram-negative, whereas *B. diphtheriae* is Gram-positive. This is not done routinely in city health laboratories, however, and occasionally a practitioner is severely criticized and placed in an awkward position when he has not given diphtheritic antitoxin to a case of agranulocytic angina, and the health authorities report a positive culture. The blood count will decide.

2. *Septicemia* and its modifications frequently offer baffling difficulties in differentiating from agranulocytic angina. Indeed, many students consider this disease but one type of reaction to sepsis, as has been previously pointed out, and numerous cases reported as agranulocytic angina will be found to come under this heading. In these conditions, however, we will generally find a hemorrhagic diathesis, abscesses, primary infectious foci, a positive blood culture, and myeloid proliferation in the bone marrow.

3. *Vincent's angina* causes ulcerations similar to those of agranulocytic angina, but a direct smear from the mouth readily reveals the causative organism, and a normal leukocytic reaction is the rule.

4. *Typhoid fever, influenza,* and *miliary tuberculosis* infrequently cause necrosis of the pharyngeal membranes, but their course and pathological manifestations should clarify their diagnosis.

5. *Monocytic angina* or infectious mononucleosis generally occurs at an earlier age, is equally distributed between both sexes, is accompanied by a generalized lymphadenopathy and splenomegaly, and the blood picture reveals a leukocytosis with an increase in the percentage of monocytes. Furthermore, the ulcerations, when they occur, are generally confined to the tonsils. There is no jaundice, the course is protracted, and the outlook is favorable.

6. *Aleukemic leukemia* often presents a hemorrhagic diathesis. There is usually a secondary anemia, thrombocytopena, and a prolonged bleeding time. Tenderness over the lower end of the sternum is frequently elicited, and, finally, autopsy findings reveal leukemic infiltrations in the liver, spleen, lymph nodes, and kidneys.

7. *Hodgkin's disease* will rarely offer any difficulties of differentiation. However, Jaffe reports a case in all respects simulating agranulocytic angina during life, but on autopsy was found to have multiple abdominal glands typical of Hodgkin's. A wrong diagnosis is probably unavoidable in such rare conditions.

8. *Pernicious* and *aplastic anemia* present a pronounced reduction in red cells and hemoglobin which are not found in agranulocytic angina. The glossitis, achlorhydria, neurological findings and remissions further distinguish Ehrlich's anemia unmistakably.

9. *Toxins* such as arsphenamin, x-rays, benzene, radium, mesothorium, and thorium x, will produce clinical pictures identical with those of agranulocytic angina, and a negative history of exposure to any of these various agents is necessary before a diagnosis of agranulocytic angina can be established.

PROGNOSIS

The outlook is gloomy, but not infaust. Out of the 168 cases in this series, twenty-two, or 13 per cent, recovered, giving a mortality rate of 87 per cent. This is among the lowest figures encountered; generally the mortality rate is given as 93 to 95 per cent.

Jaundice seems an unfavorable sign; I have noticed no report of an icteric patient recovering. A protracted course is favorable; the majority who survive the first fourteen to eighteen days recover.

TREATMENT

There is no known remedy for agranulocytic angina. Most physicians have treated their cases symptomatically. Transfusions and intravenous administration of neoarsphenamin have been given most commonly, but with no greater percentage of recoveries than those cases who received no treatment. Good results have been claimed for intravenous administration of guanin hydrochlorid dissolved in 10 per cent hydrochloric acid, but the cure is all but worse than the disease, as the injection is excruciatingly painful.

A ray of hope is seen in the x-ray therapy as used by Friedman. In his article of May 21, 1928, Friedman reviews twenty-nine cases, five of which were treated with roentgen rays and recovered. Only two of the remaining patients recovered. His cases were given one-twentieth of a skin unit surface dose and deep therapy with six millimeters Cu filter over the long bones.

Based on this report, Call and others treated a patient with x-ray, using the following factors: 4 ma., 130 kv., 2 min., 6 mm. aluminum filter, 50 cm. distance. The first treatment was given over the lower extremities and over the throat; the second was given over the upper extremities and one minute was repeated over the femurs. The patient's white count at this time was 640, with 14 per cent polymorphonuclears. Within a few hours after treatment there was a marked increase in the prepolymorphonuclears, a gradual increase in the granular leukocytes and a decrease in the lymphocytes until the blood picture became normal. The authors admit that all these cases might have recovered without the use of irradiation, but felt that its use could do no harm. The prompt improvement in the blood picture and throat manifestations, and the final return to normal in all of the cases so treated indicates strongly that irradiation was responsible for the results.

Cognizance should be taken of the fact, however, that Zikovsy and Zikowsky used irradiation to the spleen and other organs prior to these reports, but without results.

SUMMARY AND CONCLUSIONS

1. History and literature is briefly reviewed and an additional case reported.

2. Agranulocytic angina is characterized by:

(*a*) Unknown etiology and pathogenesis. "The demonstration of bacteria in the blood is not a proof of an infectious nature of the disease, as bacteria are also frequently found in late stages of leukemia, and their presence is due to invasion of the body throughout areas of necrosis."

(*b*) Marked predominance in the female sex (3.8 to 1).

(*c*) Ulceronecrotic lesions, usually most marked on the buccopharyngeal mucosa, without the common mechanisms of defense surrounding same.

(*d*) Absence of appreciable tumefaction or metaplasia of hematopoietic organs, but a hyperplasia of the reticulo-endothelial system.

(*e*) Marked leukopenia with considerable diminution or disappearance of granular white cells, with absence of important modifications in number and quality of red cells and platelets.

(*f*) Alteration in the bone marrow characterized essentially by disappearance of granular cells.

(*g*) Hyperpyrexia, marked prostration, and commonly an early fatal termination.

3. Essential agranulocytic angina can usually be differentiated by its clinical and pathological symptoms from diseases showing a secondary agranulocytic complex.

4. The one form of treatment under which most patients have recovered is irradiation to the long bones, as used by Friedmann. The development of this form of therapy is worth following.

610 South Saint Louis Street.

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DISCUSSION

Arthur M. Hoffman, M. D. (803 Medical Office Building, Los Angeles).—In the year since the patient whom Doctor Kahlstrom so adequately describes died, there have occurred in the city of Los Angeles five deaths and one recovery from agranulocytic angina. Since we have no reason to believe that the disease is any less prevalent in other parts of this country, it behooves everyone to be on the lookout for it. In fact its incidence can be described in the terms of Cabot, used about pernicious anemia, when he said, "The incidence of the disease is a good deal a matter of keenness on the part of the practitioners of any district."

Our desire to detect the disease should be primarily to attempt early treatment, for if diagnosed late, that is, a week or more after the onset of throat symptoms, the alarming mortality rate takes place and the possible effectiveness of the only hopeful measure we now possess is mitigated. X-ray of the long bones late is of no avail. I have seen two patients in the year since Doctor Kahlstrom's patient died, and both were given x-ray therapy only on the day preceding death. If delay in such therapy persists, the procedure will be discarded—possibly too soon for accurate estimate of its true value.

The presence of the agranulocytic blood picture without angina, in general sepsis as described by Blumer, is an interesting development in our knowledge of the subject. Further adequate case reports and studies like the above should in time give us a clearer insight into the mechanism of this aggravating bone-marrow reaction.

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Albert Soiland, M. D. (1407 South Hope Street, Los Angeles).—Our experience in the radiation treatment of agranulocytic angina has been entirely limited to patients who were far advanced in the disease. One patient was first treated about five days after the onset of very acute symptoms. The white count at this time showed 500 cells, 99.5 per cent lymphocytes, and 0.5 per cent granular leukocytes. Roentgen exposure was given over three areas, both femurs and the upper spine, using 200 K. V., 60 centimeters distance, one-half millimeter copper and one millimeter aluminum filter, four ma. through the tube, and two minutes' time. The following day the white count showed 600 cells, with 100 per cent leukocytes. The same areas were again exposed, and the next day the count was 600 cells, with 98 per cent lymphocytes and 2 per cent granular leukocytes. The patient then showed a marked decrease in white cells, and died. This case was practically terminal when first treated, and we do not believe it possible to stimulate blood cell formation in a patient at this stage of the disease.

Two other very advanced patients whom we observed failed to show improvement.

The cases of recovery after radiation, reported by Friedmann, are encouraging; but we believe that if any value is to be obtained from stimulative treatment of the long bones by radiation, this treatment must be given early in the course of the disease.

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* The complete list of references will be listed in the reprints. Copies of reprints may be had on request to the author.

GIARDIASIS IN CHILDREN*

REPORT OF CASES

By S. J. McClendon, M. D.
San Diego

Discussion *by Herbert Gunn, M. D., San Francisco; Francis Scott Smyth, M. D., San Francisco.*

Our experience with twenty-two cases of giardiasis in children between two and fifteen years of age has convinced us of the pathogenicity of this organism, and an analysis of these cases has shown us that the giardia flagellate may be responsible for a great variety of symptoms not necessarily associated with the gastro-intestinal tract.

REPORT OF CASES IN LITERATURE

The giardia was first described by Lambl in 1854, but it was not until twenty-five years later that Grassi gave us our real information concerning this parasite. In 1892 the frequency of its infestation in children was noted by Moritz and Holzl[1] and in 1902 a case was reported in the United States (Baltimore) by Stiles.[2] Since that time occasional cases have been reported in the literature. In 1921 Maxcy[3] reported a series of eighteen cases and reviewed the work of British investigators who had found a high incidence of the disease in children. Other cases in this country have been reported especially by Noone, Waltz and Donnelly,[4] Peterman,[5] Stevenson,[6] and Zahorsky.[7]

SYMPTOMS

In our clinic, routine stool examinations are made on all children and treatment is instituted for the giardia infection whenever it is found. Such treatment has resulted in clearing up many symptoms, both subjective and objective, associated not only with the gastro-intestinal, but also with the genito-urinary and central nervous systems. Such symptoms as abdominal tenderness, pain, nausea, and constipation are common complaints, but there are in addition many symptoms of less definite and concrete nature, such as nervousness, irritability, and easy fatigue, which disappear rapidly with the clearing up of the intestinal infection.

The symptoms encountered in our series of cases in the order of their frequency were: abdominal tenderness, especially over the ascending and descending colon, in seventeen patients; constipation in eleven patients, nervousness in ten, easy fatigue in seven, gas and belching in seven, inability to gain weight in six, poor appetite in six, irritability in five, headaches in five, enuresis in four.

It is to be noted that whereas diarrhea is one of the most frequent symptoms associated with intestinal infections, it was encountered in our series of giardia infestation in but one instance; in marked contrast is the fact that constipation occurred in 50 per cent of the patients. Noone, Waltz, and Donnelly[4] also found constipation proportionally higher among those children who had giardia infections. Maxcy[3] found a tendency to increased defecation but no diarrhea. Several observers, however, notably Zahorsky,[7] Lynch,[8] and Miller,[9] have found diarrhea a constant finding in giardia infestations. Miller[9] considers the resultant diarrhea sufficient to retard growth and development; Lyon and Swalm[10] noted it during the acute stage of the disease and found it a more frequent finding in giardia infection in children than in adults where they found constipation to be the rule.

The subject of enuresis in children has always been a difficult problem and it is very interesting to note that in this series there were four patients with associated enuresis, all of which were entirely relieved with the clearing up of the giardia infection. In none of these four patients could any pathology be demonstrated in the genito-urinary tract.

REPORT OF CASES

Brief reports are given to illustrate: one, a common type of giardiasis; two, giardiasis in a case simulating duodenal ulcer; three, giardia as the etiological factor in (*a*) a patient with so-called mucous colitis, (*b*) a patient with diarrhea, and (*c*) a patient with enuresis.

Case 1.—A common type of giardiasis. A girl, eight years of age, was brought in with the diagnosis, made by the mother, of chronic appendicitis; this diagnosis was based on the recurrent attacks of abdominal pain. The pain was not localized, however, and was present on both sides of the abdomen. Other complaints were constipation, gas and belching, poor appetite, inability to gain weight, nervousness, and restlessness. A roentgen examination of the gastro-intestinal tract had been made elsewhere, but failed to disclose any pathology. Physical examination was essentially negative except for the laboratory findings which revealed a mild secondary anemia and a marked giardia infestation of the intestinal tract. Following treatment for the giardia infection all intestinal symptoms have disappeared and the general condition of the child is showing improvement. The stools were negative for giardia after four months of treatment and have remained so to date.

* * *

Case 2.—Giardia and a simulated duodenal ulcer. The patient, a girl thirteen years of age, complained of pain and soreness in the epigastrium, gas and belching, constipation, frontal headaches, dizziness, and easy fatigue. The epigastric pain came on two or three hours after meals and was fairly constant in character. The nature of this pain was similar to that experienced by the patient's father, who had a duodenal ulcer and made the family suspicious of an ulcer in this case; they therefore requested that a roentgen study be included in our examination. Physical examination disclosed slightly septic tonsils with enlarged anterior and posterior cervical glands; slight uniform enlargement of the thyroid gland; and definite tenderness over the mid-epigastrium and the descending colon; the colon was also palpable at the point of tenderness. Blood cytology showed a hemoglobin of 88 per cent (Newcomer), and 12,400 white corpuscles with a normal differential count. The Kahn reaction on the blood serum was negative. Urinalysis showed a specific gravity of 1.103, two plus albumin, and one to two pus cells per high power field. Stool examination revealed the presence of giardia cysts. The possibility of a slight hyperthyroidism which might be associated with the intestinal symptoms was ruled out by a basal metabolic rate of plus four. The roentgen examination of the gastro-intestinal tract showed a spastic duodenum but no definite ulcer; this spasm relaxed with atropin, as a subsequent x-ray plate taken three days later showed; neither spasm nor stasis was present on this examination. The only positive findings, therefore, were the slightly infected tonsils and the giardia infection which had probably localized in the duodenum and biliary tract, the common habitat of the parasite. Treatment for the giardiasis was accordingly instituted with the gradual clearing of all symptoms, including the albuminuria.

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* From the Rees-Stealy Clinic, San Diego.

* Read before the General Medicine Section of the California Medical Association at the fifty-ninth annual session at Del Monte, April 28 to May 1, 1930.

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Case 3.—Giardia and mucous colitis. Giardia was found to be the unsuspected offender in one case of so-called "mucous colitis" in a boy ten years of age. Constipation, mucus in the stool, and enuresis were the chief complaints in this patient. Physical examination was negative except for some distention of the abdomen and tenderness over the descending colon; urinalysis was negative, and the blood count disclosed nothing abnormal. Examination of the stool revealed a heavy giardia infestation. Following three courses of treatment, the stools became negative and have remained so for nine months, the mucus disappeared and the other symptoms cleared up.

* * *

Case 4.—Giardia and enuresis. A girl, five years of age was brought to us complaining of nocturnal enuresis, increased urinary frequency during the day, and nervousness. These symptoms had been present for one and one-half years. Physical examination revealed slightly septic tonsils with no history of sore throats or frequent colds; enlarged anterior and posterior cervical glands and a palpable enlarged descending colon and sigmoid. Investigation of the genito-urinary tract disclosed no pathology. Blood count showed 4,728,000 red corpuscles; hemoglobin of 80 per cent (Newcomer); white corpuscles, 14,200; with a differential count of neutrophils, 51 per cent; lymphocytes, 4 per cent; large mononuclears, 4 per cent; and eosinophils, 16 per cent. Urinalysis was completely negative. Stool examination showed the presence of giardia. Tonsillectomy was advised but not performed. Complete relief of the enuresis and the disappearance of accompanying symptoms, however, followed the treatment for the giardia infection and the subsequent eradication of the flagellate.

* * *

Case 5.—Giardia and diarrhea. A boy, seven years of age, was brought in to us because of incontinence of the stool and urine accompanied by a chronic diarrhea which manifested itself by eight or ten stools a day. The child was nervous and restless in his sleep; his abdomen was slightly distended and rectal examination showed some spasm of the lower rectum and internal sphincter. Treatment for the existing giardia infection brought complete relief of symptoms.

Case 4 is the only patient in our series in whom an eosinophilia was found and we have no explanation for it. All other case reports in the series bear out observations of other reporters, that the giardia infestation, unlike other parasitic infestations, is not accompanied by an eosinophilia.

TRANSMISSION

It is now a generally accepted view that transmission of the infection takes place through contaminated food and contact with infected individuals, though animals may be the intermediary hosts. The giardia cysts are very resistant to heat, and it requires five minutes' exposure to 64 degrees Centigrade to kill them. If bacteria and putrefactive products are removed by careful washing, the cysts will live in distilled water at a low temperature for several months; in formed stools they have been found viable for several days.

EXAMINATION OF STOOLS

In examining stools for giardia, at least three specimens are examined in each case. The first should be a warm specimen, following a saline laxative; this is either passed at the office or brought in in a thermos container; the other two specimens should be formed stools. The duodenum is a more common habitat of the giardia than is the lower intestinal tract and it is probably for this reason that motile giardia are rarely found in the stools, but pass from the intestine in the encysted form. Of all the protozoan cysts they are the most easily identified and after a suspension in normal saline is examined under a cover slip, identification can almost always be made by the use of Donaldson's iodin-eosin stain or a modification thereof; rarely degenerated forms are found and Heidenbain's iron-hematoxylin stain must be used.

TREATMENT

Our treatment of giardiasis in children consists in the administration by mouth of bismuth salicylate and treparsol. Bismuth salicylate is given daily for ten days in doses of from five to ten grains; this is followed by a rest period of one week. Treparsol in doses of from two to four grains, twice daily, is then given for ten days. Following a second rest period of one week, a second course of the two drugs is given in the same manner. Three or four courses of medication are sometimes required before a negative stool is obtained, and the treatment should be continued until the parasite is eradicated. During treatment the patient is kept on a non-irritating, low residue diet.

Stool examinations are made at intervals of three months over a period of from one and one-half to two years following the first disappearance of the flagellate from the stool so that prompt treatment may be instituted in case of recurrence. No recurrence has been noted in our series.

We have used treparsol rather than stovarsol in our method of treatment because of its lessened toxicity and also because of the greater amount of arsenic available in treparsol. In no patient so treated did an arsenical dermatitis develop.

CONCLUSIONS

1. From a careful study of a series of twenty-two cases of giardiasis in children, we believe that the giardia is a definite factor in the etiology of many symptoms referable not only to the gastro-intestinal but also to the genito-urinary and central nervous systems. We believe that routine stool examinations should be made in all cases and treatment instituted for the giardia in-

fection whenever it is found. Our experience has demonstrated that such treatment may clear up many symptoms which have no apparent association with gastro-intestinal disease and in connection with which the presence of a giardia infection would not have been suspected.

We also wish to reiterate our observation that diarrhea is not a common symptom of giardia infection in children; it occurred only once in our series, whereas constipation was present in 50 per cent of the cases.

2. We have found the use of bismuth salicylate and treparsol with a nonirritating, low residue diet, a very effective form of treatment and by this means we have been able to clear up the giardia infection in every patient in our series.

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DISCUSSION

Herbert Gunn, M. D. (2000 Van Ness Avenue, San Francisco). — Doctor McClendon in his article on "Giardiasis in Children" states in his opening remarks that his experience with the twenty-two cases described convinces him of the pathogenicity of the organism.

It would appear to me that such a conclusion is hardly justified as he has adduced no evidence to show that the symptoms complained of in this group of patients were in any way related to the giardia infection, unless one considers the improvement noted after treatment as such. Of course disappearance of symptoms with the disappearance of a parasite following a specific treatment is suggestive evidence that the parasite so removed is the cause of the trouble, but by no means absolute proof of it. *Amebae coli,* if present, might readily be removed by the treparsol used and yet it would probably have no connection with the symptoms present. Drugs like treparsol have many effects on the body tissue as well as on some of the protozoa. Furthermore, the effect of proper dieting and general hygienic measures must be considered in connection with the effect of the drugs used. The most interesting aspect to me of Doctor McClendon's article is the fact that I have long ago demonstrated quite thoroughly to my own satisfaction that the arsenicals have not the slightest effect on the eradication of giardia. For over fourteen years I have used neosalvarsan (the effects of which are practically identical with those of treparsol) in the treatment of amebic infections and it was noted that the drug had no effect on giardia when present. I have used stovarsol in a number of amebic cases where giardia was also present, with the same result. I have seen quite a number of patients who had been treated by others, some of them over long periods of time, for giardia infection, most of them having received arsenicals in addition to various other drugs and in none of these patients was the giardia absent. The more work that one does with the giardia the more one comes to realize how elusive this parasite may be. It not infrequently disappears temporarily from the stool; to be certain that it is absent one must go over a series of stools passed on consecutive days; and even such a test, if negative, may be proved erroneous on repeating the procedure. However, I believe that proper methods of examination of the stool, especially if a concentration method is used, such as that of Adams and Yorke, will demonstrate the presence of giardia no matter what drugs are used. These views, I may state, have been expressed by many competent observers in various parts of the world. A very interesting article by McGath and Brown of the Mayo Clinic, which covers the subject of the pathogenicity of giardia, was published in the March journal of the *American Journal of Tropical Medicine.* They discussed 267 cases of giardia infection with 420 control cases which did not have giardia present. I will quote a paragraph from this article:

"It is obvious from our study that no chain of symptoms can be ascribed to the presence of either chilomastix or giardia. Not only can the whole group of cases be matched by a control group in which the patients do not have parasitic infestation, but individual cases can be accurately duplicated; even the indefinite condition known as chronic nervous exhaustion was not more prevalent in persons infected with chilomastix and giardia than in the control group."

In my own experience with giardia I have yet to see a single patient where I could definitely connect symptoms with the parasite. I have a number of patients harboring giardia whom I have watched over considerable periods of time and in none of these have symptoms ever occurred which it was necessary to ascribe to this parasite.

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Francis Scott Smyth, M. D. (University of California Hospital, San Francisco).—A rather limited experience in the field of parasitology makes one hesitate to discuss the paper of Doctor McClendon. About a dozen children in the University of California Hospital ward in the past few years have shown the presence of giardia on stool examination. However, there has been no uniformity with regard to symptoms or complaints, and in several instances the patients were admitted for obvious pathology quite remote from the gastro-intestinal tract, the presence of giardia being discovered by chance stool examination. In other cases the giardia were found associated with parasites of unquestioned pathogenicity such as *Entameba dysenteria.*

Experience of this type leads one to question the rôle of giardia. Previous reports in the literature do not settle the matter of pathogenicity and, as Doctor Gunn mentions, the fluctuations in the appearance and disappearance of the parasite make conclusions concerning therapy difficult. Certainly many observers have noticed little effect from arsenicals, the parasite varying regardless of therapy. It would facilitate our knowledge as to the pathogenicity of the organism were the following known:

1. The incidence in the stool of normal children.
2. The variability in stools of normal children and those giving symptoms.
3. Comparison of effect of therapy (arsenic, antimony, etc.), in those patients with these varying symptoms with *and* without the parasite in the stools.

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Doctor McClendon (Closing).—This paper was presented as a report of our experience in a series of cases of twenty-two children in whom a giardia infestation was found. In these children there were no physical or laboratory findings to account for the symptoms presented other than the presence of giardia in the stools. It seems to us, therefore, rather more than a coincidence that these patients were not only benefited by the treatment, but were at the same time relieved of their giardia infestation, as subsequent stool examinations have shown. We appreciate the fact that enthusiasm may cause us to be strongly biased on the question of the pathogenicity of this organism. On one side of the question we have the opinion of Doctor Gunn, who has maintained for many years his belief in the nonpathogenicity of this organism, and on the other we have the attitude of equally keen observers who believe that the organism is pathogenic. Our experience with this series of twenty-two patients leads us to agree with this latter group and to regard giardia as one of the pathogenic types of protozoa.

CHYLOTHORAX*

REPORT OF CASE

By Roscoe G. Van Nuys, M. D.
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Discussion *by Robert A. Glenn, M.D., Oakland; Robert S. Stone, M.D., San Francisco.*

Unusual pathology and conditions of obscure etiology always hold our interest. It has happened to most of us that we have never been alert to certain pathological changes until some author has called the same to our attention.

REPORT OF CASE

Since the patient, Dr. H., is a physician, who was referred to us by Dr. W. H. Crane, his own story will be presented as he gave it.

Age, thirty-nine years. Birthplace, British West Indies.

Grandparents long-lived; cause of death unknown. Mother died in early thirties of heart disease; no knowledge of cancer, tuberculosis, or any specific disease in the family. Had measles in early childhood. Malaria first contracted in early childhood, with recovery. It recurred at twenty-one years of age while living in Panama. This impaired my health for a year or more and was accompanied by digestive disturbances at irregular intervals. Had varicocele on left side at age of fourteen, which seemed to have started soon after a blow while wrestling with another boy. This was operated upon several years later. Also had influenza. After the attack my ability for athletics was somewhat impaired. In the summer of 1922 while attending medical school I had afternoon fever for six weeks. The possibility of tuberculosis was considered, but physical examination and x-ray did not reveal enough to justify a diagnosis of that disease. Because of malarial history, quinin was given. The slight fever left suddenly after six weeks and school work was continued without difficulty, though not without effort. Negative to gonorrhea and syphilis. About nine months ago digestive disturbances were noticed. These grew steadily worse and failed to respond to ordinary dietetic measures. Marked gaseous distention added to this discomfort. One day a sudden sharp pain was felt in the region of the epigastrium which was akin to the pain patients describe when a hollow viscus is ruptured. After the initial intensity the pain subsided and the general condition felt improved for a while. After a month it was noticed that slight exertion, such as walking upstairs, made me quite tired, and running was out of the question. Finding that rest improved the condition, I took as much rest as possible. The development of a thrombotic hemorrhoid caused me to consult a physician, who found fluid in the ,pleural and peritoneal cavities. X-ray confirmed this. Several quarts of pleural fluid were aspirated on the first day, and two quarts the next morning. Withdrawal of the pleural fluid seemed to cause the abdominal fluid to disappear, and it again returned as the pleural fluid accumulated.

Laboratory report by Doctor Glenn (September 20, 1929): Pleural fluid examined for ameba, echinococcus and bacilli of tuberculosis. The specimen consists of very turbid, pinkish gray, limpid fluid. Fresh and stained smears show no pus cells nor bacteria, but many red blood cells settled to the bottom. A small portion of this was treated with ether and shaken. The fluid promptly cleared and became an amber solution. A drop of fluid on a slide was stained with Sudan three and clear, stained fat droplets appeared.

Other examinations: The Wassermann was negative; the urine was negative. Blood count: white blood cells, 7300; small lymphocytes, 31; large, 6; polymorphonuclears, 61; transitionals, 2; hemoglobin, 76.

Conclusion: True chylous effusion, due either to trauma or, more likely, to pressure on the thoracic duct by a tumor mass.

ETIOLOGY

Chyle is lymph derived from the walls of the alimentary tract. Chylothorax is a condition in which the pleural cavity contains chyle. This condition results from a rupture of the thoracic duct or its radicals, or from a pathological condition in their walls, whereby the contents may be transuded into the pleural cavity. Trauma in some form is the most frequent cause. This often occurs in the upper part of the duct near its junction with the subclavian vein. Accidents of surgery in the lower cervical region, gun-shot wounds, or self-inflicted wounds may bring about this condition. Watts describes the case of a demented man who ran a knife into his suprasternal notch. Trauma of the lower portions of the duct may be caused by fracture of the vertebrae and ribs. Hypertrophic spurs may, during an accident, injure the duct, especially when it has lost its elasticity by some pathology about it. Such a case was described by Lindenberg of Germany. The next of importance are newgrowths, carcinoma especially; tuberculosis, or other enlargements of the lymph nodes, such as lymphosarcoma; thrombosis of the left subclavian vein; secondary growths in the duct itself; perforating lymphangitis; aneurysm of the duct itself and in one case aneurysm of the aorta; mitral disease; and cirrhosis of the liver, as referred to by Nichols. Warthin tells us that thrombosis of the duct itself is the complicating cause. This thrombosis may be due to causes already referred to or to Filariae.

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* Read before the Radiology Section of the California Medical Association at the fifty-ninth annual session at Del Monte, April 28 to May 1, 1930.

SYMPTOMS

Dyspnea and orthopnea, cough, pain in the epigastrium in some, and pain in the shoulders and back in others. The shifting of the symptoms is described in one case, making the clinician think of everything from filariae to aneurysm. Vomiting of large amounts of chylous fluid was described by Lyter, who says this is the only case in the literature. Progressive weakness and loss of weight are common.

DIAGNOSIS

Most cases will now be picked up as was ours—by x-ray and exploratory puncture. The usual physical signs of fluid in the pleural cavity are present. Edema of the extremities is often present, and in our case there were dilated veins in the abdominal wall. Careful differentiation between true chyle and pseudochyle must be made. With true chyle there must be a lesion of the thoracic duct. Pseudochyle is not due to fat, but to a lecithin-globulin complex held in suspension by the inorganic salts present (Wallis and Scholberg). Some also describe a chyloform fluid due to fatty degeneration of cellular elements. Elliot warns against assuming that the milky fluid is pus. There is no odor to the fluid and it will remain in a container for weeks without becoming putrid. The rate with which the pleural cavity fills is important. The normal flow of lymph from the thoracic duct is from 130 to 195 cubic centimeters per hour (over three liters in twenty-four hours).

INCIDENCE

In making a diagnosis the incidence must be borne in mind. Lewin in 1916 was able to find only fifty-one cases of true chylothorax since the time of Bartolet, who is said to have described the first case in 1633. In 1918 Funk added three cases and Watts found three more, making fifty-eight cases up to April 5, 1921. Stewart and Linner in 1926 report a case of a new-born infant in which chylothorax began on the fourth day. Lyter in 1926 reports a case of a farmer who had a carcinomatous mass in the epigastrium obstructing the thoracic duct. Andrews, an ex-resident of the Mayo Clinic, reports a case which came under his observation in Lincoln, Nebraska—a man who had been pinned under an auto. Lindenberg of Germany reports a case of a man who was caught between two coal cars. Paitre, in France, cites a case of a left-sided chylothorax.

The case here reported, then, is the sixty-sixth, so far as the writer can judge from the sources so far available.

Chyloascites is less rare. Watts says that the peritoneum is involved twice as often as the pleura. When the writer looked up the literature, he found most of the references dated before 1920, and he felt that something was wrong—the war most surely caused many cases because of trauma. The writer found the explanation in the remark that because of the protected position of the thoracic duct and its location near the great vessels, a bullet wound would also cause fatal hemorrhage. Elliott reports two cases from the war, after examination of one thousand chest wound records.

PROGNOSIS

Grave Zesas, in his review of cases, gives a 50 per cent mortality; Lindenberg of Germany gives more hope than this in the traumatic types and puts the mortality at 10 per cent. In most of the case histories which were reviewed death ensued in two or three weeks.

TREATMENT

The effort seems to have been in most of the patients to remove the chyle as fast as it formed, perhaps more often than the relief of dyspnea made necessary. In our patient, Doctor Crane and his consultant, Doctor McVey, decided not to withdraw the fluid unless imperative. If chyle is constantly aspirated death soon comes from starvation and inanition before adequate collateral chylous circulation can be formed. Lindenberg confirms this policy for traumatic cases by stating that the therapeutic intention should be to make the loss of chyle as little as possible—only when vital. Every puncture is a damaging factor as regards healing, since restored negative pressure caused by aspiration sucks at the wound and makes healing impossible. Lewin and also Hammessfahr of Germany both state that, as a result of negative pressure in the chest, chyle can escape into the pleura from the mediastinum through the normal intercellular spaces between the epithelial cells. Surgery, it seems, is highly impracticable in most cases. In our patient no history of trauma was found, and by gastro-intestinal and chest x-rays no definite etiology for the condition was noted. Fluid was removed five times—during September, ten quarts; October, three quarts; December, four quarts. On December 19, on the suggestion of Doctor Crane, the patient was empirically given a treatment with high voltage x-ray in the region of the lower mediastinum. He was instructed to return; but the treatment so upset his breathing and his stomach that for two or three weeks he was worse. Since that time, however, he has markedly improved; he looks better, has gained in weight, eats well, and breathes more freely. Doctor Crane and I are inclined to believe that the treatment helped him, even though the reaction was intense. A recent examination of blood smears, collected by the patient at night, and examined by Doctor Glenn, reveal no Filariae. Films made February 18 show some lowering of the fluid level in the general pleural cavity, although the mediastinal shadow remains as before. Films made April 2 and April 22 show lowering of the general pleural effusion and decrease in the mediastinal shadow.

The writer wishes to thank Doctor Crane of Berkeley for the courtesy of letting him report this case. Dr. Charles McVey and Doctor Glenn of Oakland also gave valuable assistance.

2490 Channing Way.

DISCUSSION

Robert A. Glenn, M. D. (The Samuel Merritt Hospital, Oakland).—One's first impression on observing this fluid was its apparent intensely purulent, hemorrhagic nature, yet it was free-flowing and exhibited no sedimentation. Our immediate suspicion of chylous effusion was made certain by microscopic and chemical study, as stated in the paper. Subsequent observations of fluid from the same case verified the original diagnosis. In the absence of any history of trauma one is inclined to believe in the probability of pressure exerted on the thoracic duct causing the effusion of chyle. The fact that one exposure to deep x-ray therapy was followed by an intense general reaction and a subsidence of the fluid level seems to support the opinion of the presence of a tumor, probably lymphomatous in nature, pressing on the duct. However, the history given in the paper of digestive disturbances, gaseous distention, etc., followed by a sudden onset of excruciating pain in the region of the epigastrium may indicate some acute disaster of an entirely different nature.

We have had the opportunity to observe this patient occasionally during the past year and he reports himself in excellent condition, without any respiratory distress, and attending his medical practice as usual.

*

Robert S. Stone, M. D. (University of California Hospital, San Francisco). — Doctor Van Nuys has presented to us a very unusual case in a very interesting manner. Naturally, from the fact that he could find only sixty-six cases reported few, if any of us, will have had personal experience with this condition. It is therefore, of especial value to us to have Doctor Van Nuys share his experience with us.

The only point that I can make in a discussion of this report is to call the attention of the medical profession to the necessity for close coöperation between the roentgenologist and the physician referring the patient. Undoubtedly the x-ray appearance of this chest would suggest nothing more than an ordinary case of pleural effusion, but the roentgenologist being a trained physician was able, because of his medical training, to help interpret the x-ray findings in the light of the clinical findings. The day has gone by when the x-ray film should be used as a puzzle picture to the roentgenologist, put up by the physician with the spirit of tell me what is the matter with the patient from the film. This case of chylothorax reported by Doctor Van Nuys is an excellent example of just this point.

THE LURE OF MEDICAL HISTORY

GALEN: GREEK, MEDIEVALIST AND MODERN*

PART I

By Sanford V. Larkey, M. D.
San Francisco

WHILE Galen's reputation rests largely on the nature of his authority in the Middle Ages and the resultant action to it brought about by the discoveries of Vesalius and Harvey, it should be pointed out that there are certain phases of his work, especially in experimental physiology, which bring him into much closer accord with modern science than is usually thought. I shall try to point out the philosophical trend of his thinking which so profoundly influenced medieval scholars, and, in contrast, will describe some of his experiments and his treatment of patients.

Galen was born in Pergamos, Asia Minor, in about 131 A. D., so this year is the eighteen hundredth anniversary of his birth. He was essentially Greek in his mode of thought, this in contrast to the more practical Romans, whose scientific achievements were best exemplified in their great aqueducts, baths, sewers, etc. His father, Nikon, an eminent architect, gave his son an excellent education, philosophical in nature. After the god Aesculapius had appeared to his father in a dream, he decided to study medicine and traveled widely. Among other places he visited Corinth and Alexandria, the latter the great medical center of his time, where there was a knowledge of human dissection. His own later work was done entirely on animals, and this accounts for many errors in his descriptions.

After serving as physician to the gladiators in his home city, he came to Rome where he achieved a great reputation, but due to the jealousy of his fellow practitioners he was forced to flee for his life. However, the emperor Marcus Aurelius recalled him to be court physician and tutor to his son Commodus. After a life of tremendous activity and amazing literary productivity, he died in 201.

Galen's particular genius consisted in correctly appreciating the essential features of his scientific inheritance. In a welter of conflicting ideas and theories, he based his medicine on Hippocrates and his biology on Aristotle. Thus he brought together the best elements in Greek medicine, an essential step in scientific progress. This systemization carried great weight in the Middle Ages, but it took along with it many fanciful speculations, which were considered equally authoritative, and which were not tested by experiment. In fact the method of experimental verification, urged but not always practiced by Aristotle and

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* From the department of medical history and bibliography, University of California Medical School.

* Read before the Alameda County Medical Society, February 16, 1931.

Galen, seems to have been forgotten and some of Galen's best work was overlooked.

Aristotle had said "Nature makes nothing in vain," and much of Galen's work is colored by this teleological point of view. He attempts to show the purposeful design of an omniscient creator. This is well illustrated in the introduction to his "The Use of Parts."

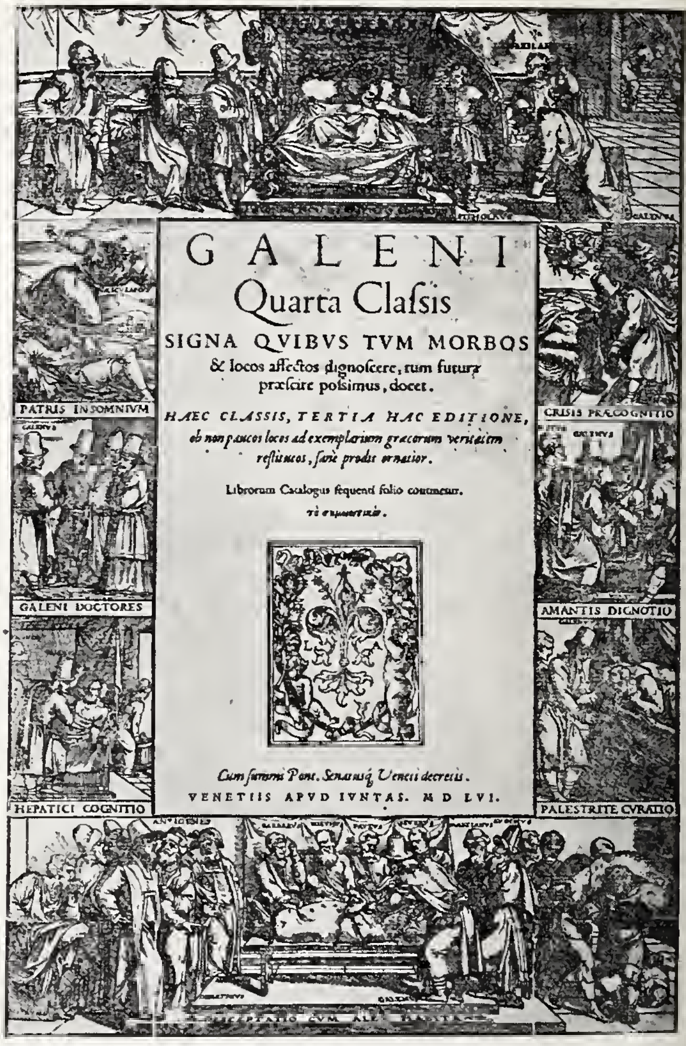
> "This work is a veritable hymn which I compose to the power that made us. And I hold it to be true piety, not that I should sacrifice to him innumerable hecatombs of oxen, nor burn abundance of myrrh and cassia, but that I should first myself realise, and then show to others how wise he is, how powerful, and how good. For his wish to bring the whole cosmos into order and to debar no one from its benefits—this I hold a proof of his absolute goodness; for this, then, let us praise him as good."
>
> * * *
>
> "The foot is a small and modest portion of the animal—who will deny it? The sun is great; it is finer than anything else in the universe; this, too, we know. Consider, however, this: Where ought the sun to have been stationed in all the universe, and where the foot in the animal? The sun ought to have been placed midmost among the wandering stars in the universe, and the foot lowest of all things in the body."[1]

It can easily be seen how acceptable this must have been to medieval theologians. It all fitted in so perfectly with the ideas of Catholic Christianity.*

Another speculation which had a great influence was his doctrine of the "spirits," or the function of the blood. Food was digested in the stomach and the chyle carried to the liver. Here it was "concocted" or elaborated into the "Natural Spirits." The blood containing this ebbed and flowed in the venous system and served for the nourishment of the tissues. It also entered the right side of the heart and was carried to the lungs, the purpose of which was to cool the blood and rid it of waste vapors. There was no conception of a circulation through the lungs. Some of the inspired air, the "pneuma," was carried to the left side of the heart, a small portion of the blood in the right ventricle seeped through minute orifices in the septum into the left ventricle. Here it became rarefied and elaborated by contact with the "pneuma" into the "vital spirits." This ebbed and flowed in the arterial system and was necessary for the life of the tissues. This arterial blood going to the brain was again converted into a third, the "animal spirits," which flowed in the nerves and which were necessary for movement. This was the physiological system which dominated until the time of Servetus and Harvey.

APPENDIX

Since Galen's great teleological work, "The Use of Parts," has never been translated into English, the following a translation of the first five chapters of this from Daremberg's French edition may be interesting.



GALENI
Quarta Claſsis
SIGNA QVIBVS TVM MORBOS
& locos affectos dignoſcere, tum futura
præſcire poſsimus, docet.
HAEC CLASSIS, TERTIA HAC EDITIONE,
ob non paucos locos ad exemplarium græcorum veritatem
reſtitutos, ſanè prodit ornatior.
Librorum Catalogus ſequenti folio continetur.
τὰ σημειωτικά.

Cum ſummi Pont. Senatusq; Veneti decretis.
VENETIIS APVD IVNTAS. M D LVI.

Fig. 1.—The title page of the Junta edition of Galen, 1556. (From a copy owned by Dr. Chauncey Leake.)

"The Use of Parts"

Translated from the French of Charles Daremberg by Geraldine G. Larkey

Chapter I

It is said that every animal is a *unit* because it appears to have a certain real circumscription and because it has no junction with other animals. In the same way it is said that each part of the animal, for example, the eye, the nose, the tongue, the hair is a *unit,* provided it also appears to have real circumscription. If these parts were not attached on several sides to that which they bordered, and if, on the contrary, they were completely isolated, then they would not be *parts* at all, but simply *units.* So that any body which has not a real circumscription, but which also is not united on all sides to that which surrounds it, is called a part. If this is true, there would be many parts in animals, some larger, some smaller, and finally some which are absolutely indivisible into other kinds.

Chapter II

The use of all these parts is dependent on the soul, for the body is the instrument of the soul. Moreover, the same parts differ widely from each other among the different animals because the souls themselves differ. Thus there are strong souls, there are cowardly, savage and subdued souls; others, so to speak, are civilized and capable of directing various affairs; others have solitary tastes. Among all, then, the body is accommodated to the habits and to the faculties of the soul. In the case of the horse the body is provided with strong hoofs and a mane, for it is a swift, faithful animal, and not without courage. With the lion, a valiant and bold animal, the body derives its force from teeth and claws. It is the same with the bull and wild boar; with the former, horns, with the latter prominent teeth (defense) are the natural weapons. With the stag and the hare (cowardly animals), the body is able to run quickly, but is absolutely bare and disarmed. It is in fact appropriate, it seems to me, to give speed to cowardly animals and weapons to brave animals. Thus nature has neither armed the cowardly nor disarmed the courageous. To man, animal gifted with wisdom and the only divine being among those which live on earth, she has given for his entire defensive weapon, the hands. An instrument necessary to carry out every kind of industry and no less useful in times of peace than in times of war. There was no need, then, of giving a natural horn to this one, which at its will could construct with hands an instrument better than a horn; for the sword and the lance are both better and more suitable weapons for cutting than any kind of hoof. Moreover, with the horn and hoof one can do nothing without getting close to one's adversary, while the weapons of man are as effective from a distance as close to; the javelin and the arrow better than the horn, stone and wood better than the hoof. But the lion is more swift than man. What does that matter since man, by his wisdom and his hands, has mastered the horse, which is swifter than the lion and which he uses in fleeing from or following this animal. From the height of this horse on which he is mounted man can strike the lion which is on foot. Thus man is neither bare, nor without weapons, nor easily vulnerable, nor without swiftness, but where he so wishes, a cuirass of iron becomes for him a means of protection more invulnerable than any kind of skin. He can also have shoes, clothes and weapons of every kind. It is not only his armor, but also his horse, his wall and his towers which shelter man. If he had a horn or any other kind of defensive weapon naturally attached to his two hands, he would not be able to use his hands either for building houses and towers or for constructing a lance or an armor, or any other similar article. With his hands man weaves a coat, interlaces the mesh of a net, completes a weir, a thread, a network. Consequently he is master not only of the animals which live on land, but of those which live in the sea or in the air. Such is the weapon which man finds in his hands to defend himself. But man, made for peace as well as for war, uses his hands for writing laws, raising altars and statues to the gods, constructing a ship, fashioning a flute, a lyre, making a knife, a pair of tongs, producing instruments for all the arts. In his writings he leaves memoirs on the theoretical side of these arts so that, thanks to written works and the use of the hands, you can still be in contact with Plato, Aristotle, Hippocrates, and the other ancients.

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* See, also, the appendix.

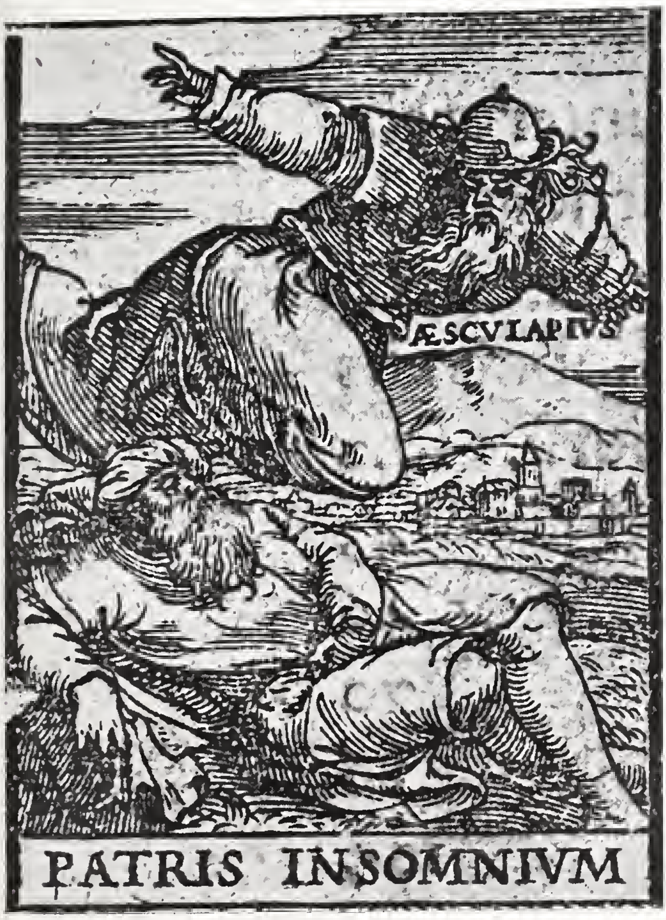

Fig. 2.—Æsculapius appearing in a dream to **Galen's Father.**

Chapter III

Thus man is the wisest of all animals. Thus the hands are an instrument suitable to a wise being, for man is not the wisest of animals because he has hands, as Anaxagoras claimed, but he has hands because he is the wisest, as Aristotle (who judges very discerningly) set forth. In fact it is not by his hands, but by his reason that man has learned the arts. The hands are an instrument, just as the lyre is an instrument for the musician, and the tongs for the blacksmith. However, the lyre has not created the musician nor the tongs the blacksmith, but each is an artist because of the intelligence with which he has been endowed, and he cannot exercise his art without instruments. In the same way every soul is endowed, by virtue of its essence, with certain faculties. But it is impossible for it to carry out that to which nature has destined it, if it is deprived of instruments. It is obviously seen in observing new-born animals who try to act before their parts are entirely formed, that the parts of the body do not excite the soul to be cowardly, courageous, or intelligent. Thus I have often seen a calf hit about with its head before its horns are developed; a colt kick, although its hoofs are still soft, and a tiny pig defend itself with its snout, destitute of its big teeth. Finally, a little dog tries to chew with its teeth still tender, for every animal has in it, without having been taught, the feeling of the faculties of his soul and of the power of the parts of his body. Why, then, does the little pig, being able to chew with his teeth, not use them in combat while he tries instead to use what he has not yet got? How can it be said that animals learn from the parts themselves the manner of using them since before possessing these parts they already know the destination of them? Take, then, three eggs, one of an eagle, one of a duck, one of a snake. Warm them moderately yourself and break the shell. You will see among the animals which you have hatched that two will try to use their wings before being able to fly, that the other will crawl, although it is still soft and powerless to do it. And if, after having raised them in the same house, you carry them into the open air and give them their liberty, the eagle will rise into the air, the duck will fly to some mire, and the snake will hide itself in the ground. Finally, I think it is not because of having been taught that the eagle will hunt, the duck will swim, and the snake will cower in a hole for, following the word of Hippocrates, "The natures of animals do not receive instruction." From which it seems to me, moreover, that animals exercise certain arts, more by instinct than by reason. Thus one sees the bees construct hives, the ants dig themselves sort of cellars and underground passages, and the spiders weave and spin their webs, and without, I imagine, having had any masters.

Chapter IV

Man, in the same way that he has a body deprived of weapons, has also a soul destitute of skill. That is why he has been given hands and reason to compensate for the bareness of his body and the absence of skill in his soul. Using, then, his hands and his reason, he arms and protects his body in every way, he adorns his soul with all the arts, for, if he had possessed a natural weapon, he would still have had only that, and in the same way, if he had known any art naturally, he would not possess others. As it was better to employ all the weapons and exercise all the arts, man did not receive any from nature. Aristotle has well said, that the hand in some ways is a positive instrument which takes the place of other instruments. By imitating Aristotle, we could also very well contend that reason is a positive art, which takes the place of other arts. In fact, as the hand, not being any of the particular instruments, takes the place of all the instruments (since it can very well construct them all), so the reason, which is not any particular art, since it is capable of receiving them all, would be an art which takes the place of arts. Man, then, being of all the animals the only one which possesses in his soul an art which takes the place of arts, consequently enjoys in his body an instrument which takes the place of instruments.

Chapter V

Let us examine at first this part of man (that is to say, the hand) and let us see not only if it is simply useful, or if it is suited to an animal endowed with wisdom, but if it is, in all its details, a structure such as could not be improved upon if it were constructed in some other way. The first and most important requirement which an instrument of prehension should fulfill, in order to be a perfect construction, is to always be able to pick up easily any objects that man needs to move, whatever form or whatever size it might be. Is it, then, more advantageous for the hand to be divided into parts of diverse forms, or for it to be made of a single piece? There is certainly no need of long explanations to show that the hand, if it were undivided, could not touch the bodies with which it would come in contact, except on a surface equal to its actual width. But, divided into several parts, it can easily embrace objects much more voluminous than itself, and can catch perfectly the smaller objects. When it seizes voluminous articles it increases its span by stretching the fingers, and with small things it does not try to take them with the whole hand, for these objects would escape it, but it suffices to use the ends of two fingers. The hand, then, is the most perfect structure with which to seize firmly small things as well as large. And finally, it is very fortunate that the hand was divided into parts of divers form in order to grasp articles of various shapes. Now, in order to accomplish this end, the hand is evidently the best constructed of all the instruments of prehension. For spherical objects, it can put itself in a round shape and embrace them circularly on all sides. With the same certainty it can seize flat bodies, and those which are

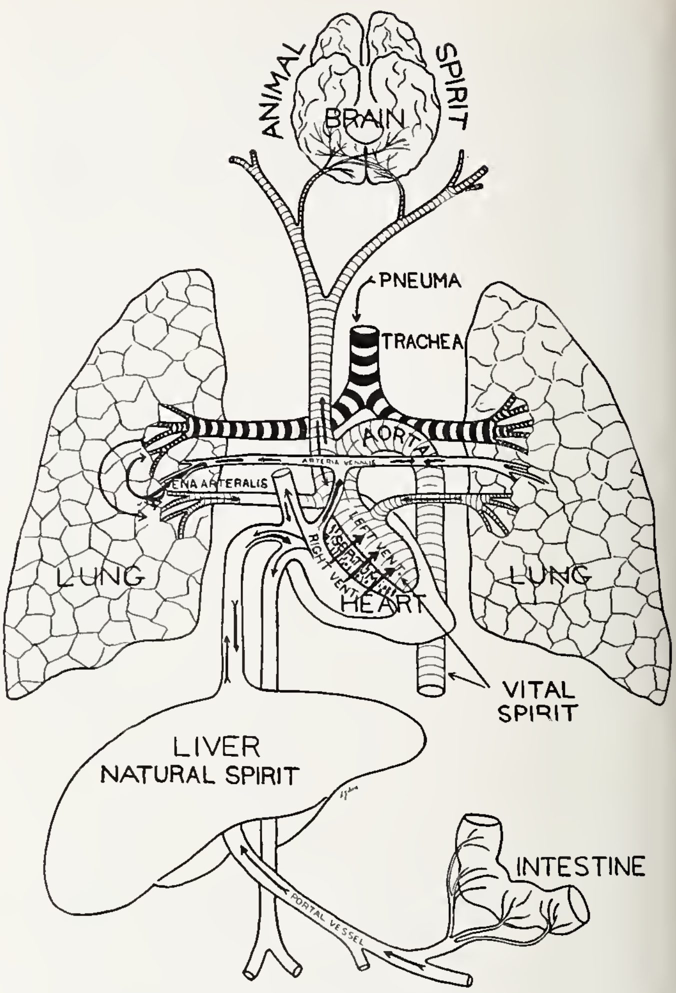

Fig. 3.—A diagram showing Galen's theory of the "spirits."

hollow. In the latter case it adapts itself to all the forms, since all the forms result from a combination of three kinds of lines—convex, concave, or straight. Since many bodies are too large to allow one hand to be sufficient, nature has made one the auxiliary of the other, in such a way that both, seizing the voluminous object by two sides, do not leave the task to one hand, which would be very difficult. The hands, consequently, have been turned opposite to each other, for they were made for each other, and they have been constructed absolutely alike. That was a very suitable thing for organs which must act in the same way. After you have considered the largest objects man is called upon to move with his two hands, such as wood and stone, turn your thoughts immediately toward the tiniest objects, such as a grain of millet, the thinnest of thorns, a hair; then think of the multitudinous degrees of volume between the largest and the smallest, and reflect on all that. You will find that man manages all these things so well, that it will seem to you that the hands have been made expressly for each one of these articles separately. In fact, with small objects, one seizes them with the ends of two fingers, the thumb and the index. Objects a little larger are taken with the same two fingers, but not with the ends of them. With objects still more voluminous three fingers are used, the thumb, the index, and the middle. For those which are still larger, four fingers are put to work, then the five, then the whole hand. Then the second hand is added for objects still more voluminous. The hand could not fulfill any of these tasks were it not divided into parts of divers form. But it does not suffice that the hand should simply be divided into fingers: in fact, of what use would that be, if one of the five fingers had not been opposite the four others as it is, and if all had been placed in the same row beside each other? Is it not evident that the number of the fingers would become useless? For, in order to be firmly held, every body must be seized around all sides, or at least by two opposite points. This advantage might have been lost if the five fingers had been ranged on the same line with each other; but in the actual state of things it is preserved, one of the fingers being able to be opposite the others, for this finger is placed and moves in such a way that by means of a very limited movement of rotation it is able to act in accord with the other fingers to which it is opposed. As it was best that the hands should be able to fulfill the functions which they now fulfill, nature has given them a structure which renders them apt to these operations.

University of California Medical School.

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MASTERS IN MEDICINE

WILLIAM HENRY WELCH AT EIGHTY

"WILLIAM HENRY WELCH AT EIGHTY" is the title of a volume published by the Milbank Memorial Fund of New York, in commemoration of the celebration of the eightieth birthday of Dr. William Henry Welch of Johns Hopkins University.

From this memorial record of celebrations have been taken excerpts, which here follow. If there be a member of the medical profession in the United States to whom the honor "dean of the medical profession of America" could be most aptly applied, the man selected would in all probability be Welch of Johns Hopkins. The excerpts here given should, therefore, be of interest to all who have not been fortunate enough to have access to the complete volume of memorial addresses.

From the Foreword by John A. Kingsbury

For his fine courage and rare ability to pursue truth into its innermost fastness, his broad vision of scientific conquests for the practical benefit of humanity, his warm zeal for discovering and developing the strength of others crusading tor health, his charming genius for friendship, and his modesty, marked as his greatness, Dr. William Henry Welch has long been the recipient of cumulating honors and felicitations. When he reached the age of eighty, on April 8, 1930, it was but natural that the legions of his followers, colleagues, personal friends, and unknown admirers should pay their tributes more abundantly than ever before.

Certain associates and friends of Doctor Welch had seen in advance that the occasion of his eightieth birthday would demand some organization for the acclaim which was sure to arise from all sides. . . .

. . . The coöperation of Doctor Welch himself had to be secured, in order to obtain necessary information, and to arrange for his presence at certain of the gatherings. With characteristic modesty he contended that he was merely a figure in the great cause of modern medicine, which had been advanced by many leaders working together. The committee turned the contention back upon Doctor Welch and induced him to accept the tributes as a representative of that movement.

This book is published as a memorial record, even though necessarily incomplete, of the celebrations in honor of the eightieth birthday of Doctor Welch. . . .

. . . In publishing this volume for the Executive Committee, which served in organizing the celebrations, the Milbank Memorial Fund honors Doctor Welch, who is the chairman of its Advisory Council, and at the same time aims to perpetuate an ideal in the domain of its principal interest, public health, where, as President Hoover said, "Doctor Welch is out greatest statesman."

From the Dedicatory Page of the Volume

WILLIAM HENRY WELCH

To have stepped, in the prime of life, into a position of acknowledged intellectual leadership in the profession of his choice; to have occupied that position, albeit unconsciously, for those forty years which have seen the most rapid strides in medical progress of all time; to have had such influence in the furtherance of the medical sciences in this country as to turn the tide of students seeking opportunities for higher education from the old world to the new; to have been as ready in countless unrecorded ways to share his time and thought with those who were inconspicuous as with those who sat in high places; to have been no less universally respected for his great learning than beloved for his personal *charm and companionability; to have stood knee-deep in honours unsought and to have remained seemingly unaware of them; to have rounded out with distinction two successive university positions and, with enthusiasm undimmed, to be now well launched on a third which he is no less certain to adorn—to have done so much, in so many ways, for so many years, and to have aroused no shadow of envy or enmity on the way, betokens not only unselfishness of purpose, but that fineness of character which always has been and always will be an inspiration to mankind.*

From the Brief Account of the Celebrations Around the World

The focus and the point of radiation for the celebrations around the world in honor of the eightieth birthday of Dr. William Henry Welch, was the meeting in Washington, D. C., on April 8, 1930. Here were assembled sixteen hundred of his friends to see him and to witness the ceremonies in which President Hoover took eminent part. The heralding of the event in the press of America and other nations had turned the attention of a great public to Doctor Welch and those paying distinguished tribute in Washington. Congratulatory messages poured in from friends and other admirers who could not attend. The program, beginning at noon and lasting one hour, was broadcast throughout the country by the two leading broadcasting companies and to distant lands from two short-wave stations.

A unique feature in the linking of many celebrations by radio was the simultaneous presentation of drypoint portraits of Doctor Welch to about fifty institutions in which he is especially interested. . . .

From the Account of the Ceremonies in Washington

The following is taken from the address of Livingston Farrand, chairman of the meeting:

It is a very happy occasion that brings us together, that of celebrating the eightieth birthday of William Henry Welch, but it is a very bewildering task that is offered us even to outline within the space of one hour the great service of that extraordinary man. Certainly it is not for me to attempt to indicate, except in one or two points, the contributions which Doctor Welch has made.

A great teacher, a constructive educator, a wise counselor, a leader of public opinion—in all these fields of activity he has left his impress.

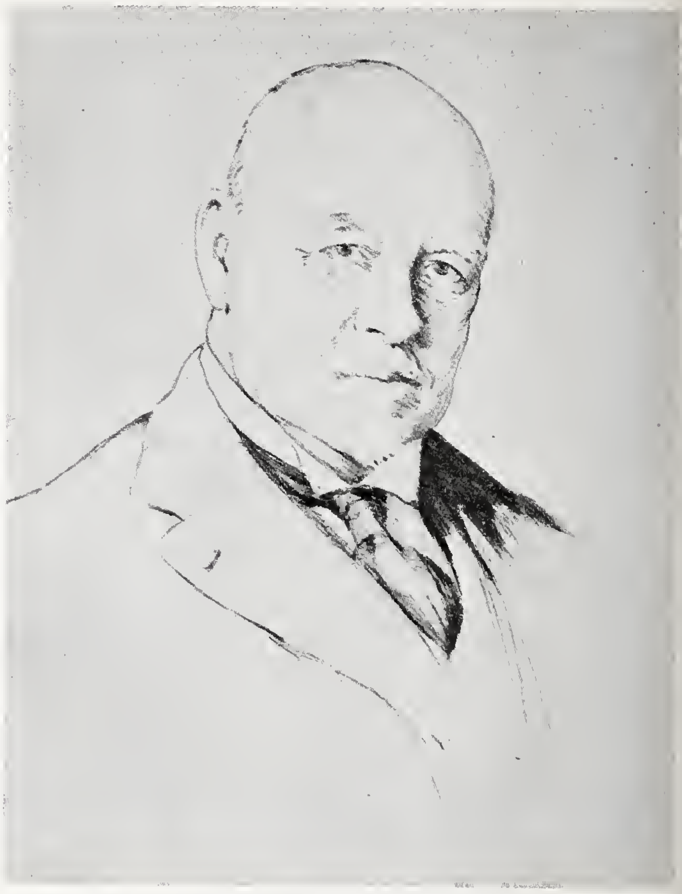
And his has been a leadership which has meant much in the application of those discoveries of medical science to which he himself has contributed so well. It has meant so much for the improvement of the conditions of mankind. . . .

* * *

From the address of Simon Flexner, chairman of the Executive Committee:

As a pupil, in the words of your chairman, as a beneficiary of Doctor Welch, in honoring whom today on his eightieth birthday we honor ourselves more, may I speak for those almost numberless pupils, direct and indirect, whose scientific and professional lives he has influenced, to pay him the tribute he has so well earned in the more than fifty years of service he has given to medicine in its broadest aspects?

. . . There is one great historical figure in the Renaissance with whom perhaps it is not only permissible, but possible to compare Doctor Welch, and that figure is Leonardo da Vinci, a man whose interests in theoretical science and whose pioneer contributions to practical mechanics and other branches of applied science, whose interest in the arts, surpass those of anyone before him or anyone since his time. One must go back to that individual to get a measure with which to compare our great, distinguished guest of today. . . .



WILLIAM HENRY WELCH

From a drypoint portrait by Alfred Hutty, made especially for the celebration of the eightieth birthday of Doctor Welch, who received the first impression at the Washington ceremonies. About fifty other impressions were presented simultaneously to institutions in many countries.

From the address of Herbert Hoover, President of the United States:

The many years that I have been honored with Doctor Welch's friendship make it a privilege to join in this day of tribute to him by his friends and by the great scientific societies of our country and of the whole world. Doctor Welch has reached his eightieth year and a whole nation joins in good wishes to him. . . .

. . . Our age is marked by two tendencies, the democratic and the scientific. In Doctor Welch and his work we find an expression of the best in both tendencies. He not only represents the spirit of pure science, but constantly sees and seizes opportunities to direct its results into the service of human kind. . . .

. . . Doctor Welch has happily combined in his character and intellect the love of truth and the patient experimental habit of the pure scientist, with the ingenuity of the inventor and the organizing vision and energy of the promoter of sound enterprise—and combines all these things with a worldly wisdom and gracious charm that have made him a leader amongst men. . . .

. . . I know that I express the affection of our countrymen and the esteem of his profession in every country when I convey to him their wishes for many years of continued happiness. . . .

From the Remarks at the Ceremonies in Washington by William Henry Welch Himself

I intended to throw away my manuscript, but I knew I could hardly trust myself to speak without it. I must speak in my own person and not in that of the idealized figure which has been presented to you.

It is quite beyond my power of words to express the thoughts and the feelings of gratitude which this wonderful occasion has aroused in me. Did I accept merely as a personal tribute these words of praise and this manifestation of appreciation and good will marked by this large and distinguished gathering and by meetings elsewhere, I should be overpowered with a sense of unreality depriving me of utterance, but I shall assume, as I feel that I am justified in doing, that by virtue of certain pioneering work and through over a half-century of service, I stand here to represent an army of teachers, investigators, pupils, associates, and colleagues, whose work and contributions during this period have advanced the science and art of medicine and public health to the eminent position which they now hold in this country. . . .

. . . As my immediate and, doubtless, final professorial interest is on the humanistic side of medicine, I may, in closing, be permitted to emphasize the attractions and importance of studies in the history of medicine and of science. We physicians apply the word "humanism" to a period and to a spirit which released the mind from thralldom to authority and contributed mightily not merely to the study of antiquity, but to the study of nature and of man, leading logically and rapidly to the cultivation of experimental science, between which and humanism as we understand and use the word, there is no incompatibility whatever.

While nothing can be more hazardous than to attempt to predict the directions of future discovery and progress in the biological and medical sciences, it requires no prophetic gift to be confident that with the widening of the boundaries of knowledge will come increased power to relieve human suffering, to control disease, to improve health and thereby add to the sum of human happiness and well-being. Your presence on this occasion and the widespread recognition, so conspicuously manifested, of the value of services rendered in the field of medical education and medical science are an encouragement to teachers and workers for which I am profoundly grateful and which accentuates the note of hopefulness which I have endeavored to sound.

CLINICAL NOTES AND CASE REPORTS

INFECTION WITH CRAIGIA*

REPORT OF CASE

By Dorothy Ann Koch
San Francisco

SINCE so much doubt has been cast upon the authenticity of the genus *Craigia,* we feel that every case should be recorded. Craig's[1] (1914) original organism and those of Barlow[2] (1915) have not been rediscovered, but Wenyon[3] (1926) states that there is no doubt that Kofoid and Swezy[4] have discovered a small flagellated ameba rarely found in human stools, and called by them *Craigia.* In Wenyon's[3] opinion this uniflagellated ameba may belong to the genus *Spiromonas* or be similar to the coprozoic *Oikomonas.* Kofoid and Swezy[4] (1921b) describe two species, *Craigia hominis* (Craig 1906) and *Craigia migrans* (Barlow 1915),[2] the latter being most commonly found. This species has in its life cycle (1) a swarmer or flagellate stage, (2) a motile ameboid stage, and (3) an encysted stage which gives rise to swarmer flagellates. Cysts show a paradesmose at nuclear division, a condition only found in the flagellates. The flagellate phase is recognized at once by the single flagellum, the blepharoplast which appears as a small granule in the cytoplasm, occasionally a rhizoplast and a large nucleus with deeply staining karyosome. The spherical cysts can be distinguished from those of other amebae by the presence of the blepharoplast and the vacuolated cytoplasm which has a "smooth" rather than granular appearance. The nuclear membrane is very distinct, and the karyosome, although almost always a spherical mass, nearly fills the whole nucleus.

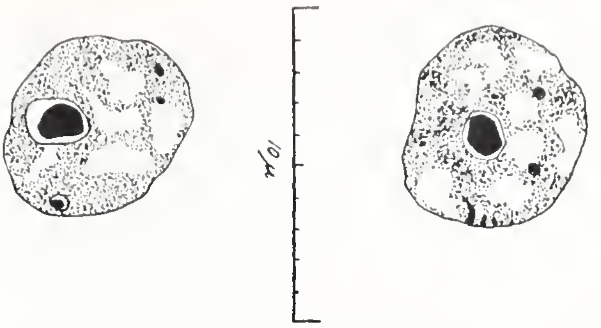


Fig. 1.—Craigia x 3600. Camera lucida drawings from slides stained with iron hematoxylin (Heidenhaims).

During routine examination of feces, we have encountered an organism (Fig. 1) corresponding in every way to that described by Kofoid and Swezy. This diagnosis was made from slides fixed in Schaudinn's fluid and stained with Haidenhain's iron hematoxylin. These showed organisms with the typical vacuolated cytoplasm, and one large nucleus with a deeply staining karyosome. Many forms showed the blepharoplast. The organism averaged 6.6 microns in diameter, a few being smaller.

No active flagellates, easily recognized by the single flagellum, were seen, and the fact that in seven subsequent examinations no protozoa of any kind were found, bears out the statement of Kofoid and Swezy that this organism is extremely erratic in its appearance in the stool.

Craig[1] (1914) claims no pathogenicity, except diarrhea which cleared with treatment. Barlow[2] (1915) attributes chronic diarrhea with hepatic abscess as a complicating symptom. Kofoid and Swezy[4] have found the organism in cases of chronic diarrhea. Distribution of cases so far recorded is as follows: Philippines 9, United States 5, Honduras 60, Shanghai 4, Mexico 1, India, 1, Armenia 1. The case here reported from the service of Dr. A. C. Reed is of interest because of the complete lack of gastro-intestinal symptoms.

REPORT OF CASE

Miss G., female, white, age sixty-one, a nurse and teacher, entered the hospital on February 3, 1930, complaining of pain "under breasts" and ribs, and a productive cough.

Residence.—Richmond, Virginia, 0-12; England, Germany, and Mediterranean, 12-18; Philadelphia, 18-24; China and Japan, 24-31; Sydney, Honolulu, Samoa, and United States, 31-61.

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* From the Pacific Institute of Tropical Medicine, University of California, San Francisco.

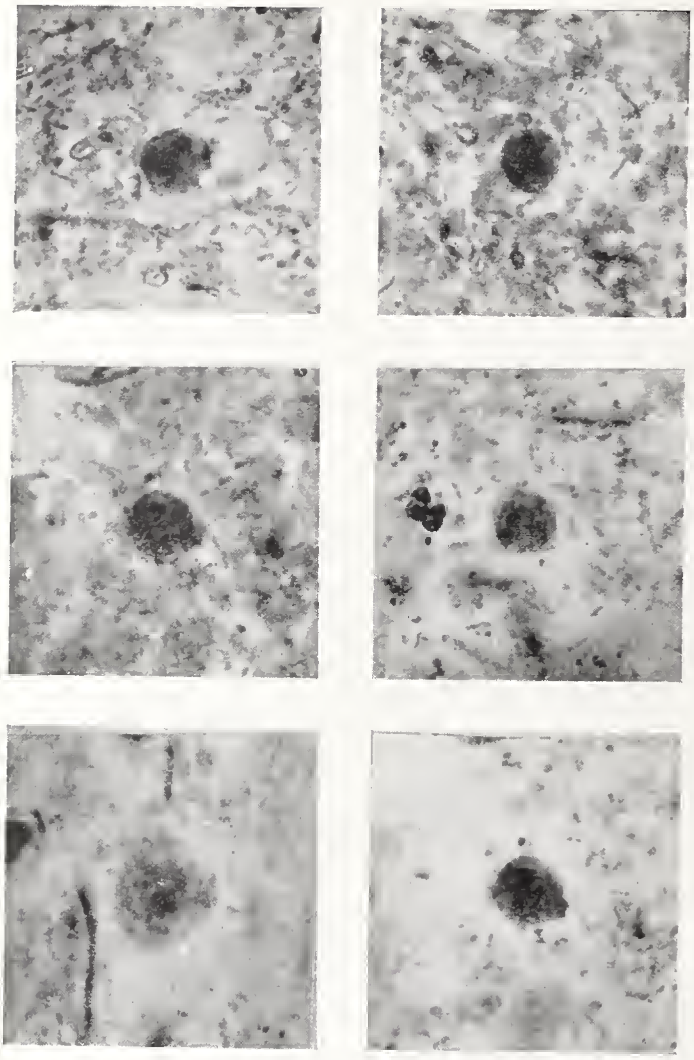

Fig. 2.—Craigia. Photographs from slides stained with iron hematoxylin.

Diseases.—Typhoid, aet. 21; exposure to tuberculosis in tropics; "influenza" last fall; colds frequently since.

Symptoms.—Headaches, "eyes bad," glasses for reading; occasional vertigo; no tonsillitis; occasional precordial pain; no dyspnea on effort; three pillows at night. Two months before admission the patient fell downstairs, injuring her left side, shoulder, and left eye. She developed a "cold" following this, which became progressively worse until January 9, when chest pain, cough—productive with rusty sputum and fever and weakness—became so marked that she went to bed and has been in bed since, treating herself as best she could in a hotel room. She has lost about twelve pounds in weight, and cough, fever, chest pain, weakness, and occasional vomiting persist to the present.

General Condition.—Temperature, 100; pulse, 100, regular; blood pressure, 145/70; respirations 30, and regular; poorly nourished; weight, 120 pounds; height, five feet five inches. She was very restless, coughing continually, raising sputum, and complaining of pain in left chest. The lungs showed pleuropneumonia, followed by bronchitis. The abdomen was not remarkable. There were no neurologic symptoms.

Diagnosis.—Bronchopneumonia; pleurisy; secondary anemia. X-ray of chest showed evidences of pleurisy with chronic bronchitis and enlarged hilus glands.

Laboratory Reports.—Urine: Clear, straw color, alkaline, specific gravity 1010; no albumin, no sugar, no casts, occasional pus cells, no blood. Sputum: Many pus cells, staphylococci, few short chains of streptococci, no acid-fast bacilli. Blood: Wassermann negative; hemoglobin, 75 per cent; erythrocytes, 4,180,000; leukocytes, 20,600; large lymphocytes, 8 per cent; transitional, 4 per cent; polynuclear neutrophils, 86 per cent. Feces: Neutral; occult blood negative; small amount of mucus; food well digested; few vegetable cells; few crystals; occasional muscle fibers; *Craigia* (ameboid stage).

Patient made a complete recovery, with no gastrointestinal symptoms at any time. Seven subsequent fecal examinations during hospitalization failed to reveal the presence of *Craigia.*

Hooper Foundation, University of California.

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DERMATITIS VENENATA DUE TO WIGANDIA CARACASANA

A HITHERTO UNRECOGNIZED CAUSE

REPORT OF CASE

By Nelson Paul Anderson, M. D.
and
Samuel Ayres, Jr., M. D.
Los Angeles

The occurrence of dermatitis venenata, due to such plants as poison ivy (Rhus toxicodendron), poison oak (Rhus diversiloba) and other members of the Rhus family, as well as that due to the primrose, is too well known to require comment. A large number of both rare and common plants have been incriminated in the production of dermatitis venenata.[1]

In reviewing the literature the authors have been unable to find any reference to a case of dermatitis venenata due to Wigandia caracasana, a fairly common tropical and subtropical plant which has been introduced into southern California and rather widely used as an ornamental shrub. Pardo-Castello[2] does not mention this plant in his list of tropical plants producing dermatitis venenata; nor is it mentioned in Weber's[3] excellent list of cutaneous irritants. It is for this reason that the following case is reported.

REPORT OF CASE

Miss W. V., a nurse, age forty, was referred to us on July 14, 1930, by Dr. H. W. Wall. She complained of an itching, weeping eruption of one week's duration involving both upper extremities, especially the forearms, the face, and ears. According to the patient the skin condition began as a quarter-sized erythematous itching area on the lateral aspect of the right forearm. Calamin lotion was applied, but the eruption spread and became vesiculobullous in nature, with considerable oozing.

Past history was negative with the exception that the patient stated that she had had a dermatitis venenata due to poison oak when a child. Further that she had been compelled to give up her work as a surgical nurse several years ago because of hypersensitivity to bichlorid of mercury.

On examination the anterolateral aspects of both upper extremities, especially the forearms, presented a marked erythema. On the right forearm there were

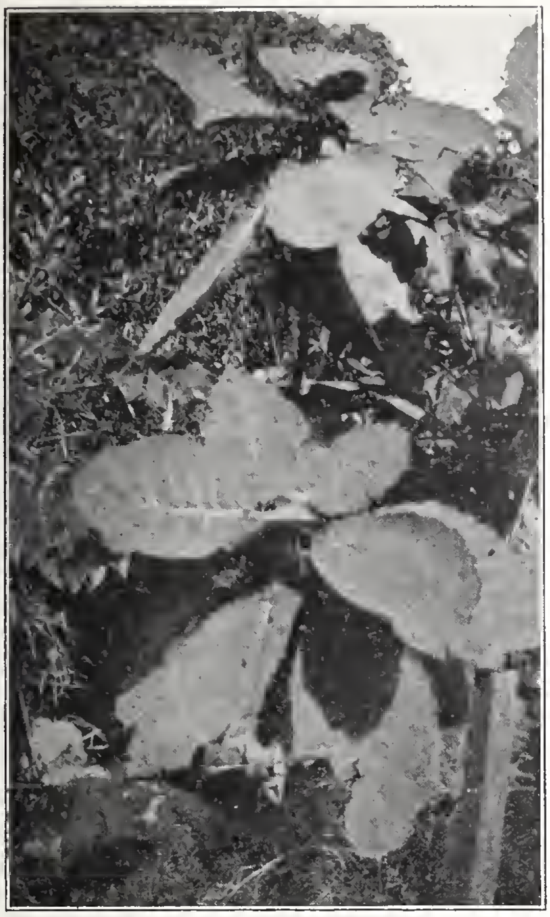

Fig. 1.—Wigandia caracasana.

numerous papulovesicles and bullae present with considerable weeping. On the left forearm and arm there was a diffuse erythema. The left ear was swollen to twice its normal size and was markedly erythematous. The face presented a diffuse erythema with some swelling. There was marked itching and burning of the involved areas. There were no linear lesions made up of small papulovesicles.

The patient was employed as a night nurse on a medical case and was unable to recall any contact with plants. A diagnosis of dermatitis venenata of unknown origin was made and aluminum acetate wet dressings were prescribed. The next day she returned considerably improved. Three days later the condition was much worse and was spreading. At this time, in spite of a negative history, a diagnosis of dermatitis venenata, due to poison oak, was made and an injection of poison oak extract was given, as were three more in the following ten days.

On July 31, 1930, the patient called, stating that she had determined the cause of her eruption. This she believed to be a large plant growing in the yard. She was in the habit of watering the lawn each afternoon, and in turning on the water the outer aspect of her right forearm came in contact with the leaves of this plant, which was growing by the water hydrant. She further stated that a neighbor had a similar eruption on her face. The neighbor had independently reached the conclusion that the cause of this eruption was the above-mentioned plant whose leaves had brushed her face. Finally, believing this plant to be poisonous, the patient had requested her Japanese gardener to cut off all of the larger leaves near the ground. This the gardener refused to do, saying that the plant was poisonous and that every time he brushed his arms and forearms against its leaves (as he did when mowing the lawn) he suffered a very itchy, weeping eruption of the forearms and backs of the hands.

On August 28, 1930, the patient (who was entirely well), after much persuasion on our part, consented to a patch test with both the leaf and stem of this plant. These were applied to the right forearm for a period of five minutes only. On the following day she reported an erythematous papular itching eruption in the two areas tested. Five similar patch tests on normal individuals were negative.

With the aid of Doctor Haupt of the botany department of the University of California at Los Angeles, the plant was identified as Wigandia caracasana, variety macrophilla (Fig. 1). Concerning this plant, Bailey [4] states that "this is a larger leaved form which grows rather taller than the ordinary type. It is the Mexican form of the species and the one mostly in culture. Their leaves are covered with stingy hairs similar to nettles. Many large specimens are seen in California, but in general the plants are not much used in North America." The plant often grows to a height of ten feet or more, and has leaves measuring up to eighteen by twenty-four inches. In April a cluster of showy lilac-colored flowers is seen at the uppermost part of the stalk. When leaves or stalk are crushed, a brownish stain discolors whatever it comes into contact with and, in the case of white cloth, remains even after washing with soap and water.

CONCLUSION

A case of dermatitis venenata, in which the causal agent has been definitely proved to be Wigandia caracasana, is reported. This is, as far as we know, the first reported case of dermatitis venenata due to that plant.

Since this plant is not at all uncommon in southern California, there is reason to believe that many such cases have occurred but have been diagnosed as due to poison oak, primrose, and other plants.

2007 Wilshire Boulevard.

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Advice in Regard to Marriage.—There are many difficulties involved in the German system of obtaining official evidence from physicians with regard to the suitability of candidates for marriage. In Sweden and Norway candidates for marriage are required to take an oath in regard to the condition of their health, but are not subjected to examination. It seems probable that this is a better method, as even on examination a latent stage of syphilis cannot be detected, and women particularly find it very obnoxious to be subjected to an examination from which even prostitutes are free in many countries. It seems probable that the eugenic conscience of the people is stimulated more by the necessity of taking an oath than by the official compulsion of an examination. Even on examination there are many things that cannot be brought out unless the patient tells the truth, such as sexual perversions, addiction to cocain, epileptic attacks, former attacks of manic depressive insanity, etc. It is a serious thing to impose on the physician the task of testifying that an individual is in condition to marry safely, and many physicians object to giving such written testimony. It would perhaps be better to place the responsibility on the individuals themselves, as is done under the Swedish and Norwegian system.—*G. Ln. Mitt. d. deutsch. Gesellsch. z. Bekämpf. d. Geschlechtskr.,* Berlin, 1930, xxviii, 242.

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Leaflet Regarding Rules of Publication.—California and Western Medicine has prepared a leaflet explaining its rules regarding publication. This leaflet gives suggestions on the preparation of manuscripts and of illustrations. It is suggested that contributors to this journal write to its office requesting a copy of this leaflet.

EDITORIALS*

SIXTIETH ANNUAL SESSION, CALIFORNIA MEDICAL ASSOCIATION, SAN FRANCISCO, MONDAY, APRIL 27, THROUGH THURSDAY, APRIL 30, 1931

Complete Scientific and Other Program Is Printed in this Issue.—The caption of these comments tells much of the story. That caption may be called the Foreword or Call to the Sixtieth Annual Session of the California Medical Association, to be held in the city of San Francisco, with central headquarters at the Fairmont Hotel, on Monday, April 27, through Thursday, April 30, 1931.

On other pages of this issue will be found the complete scientific program and information concerning the clinics to be given at the University of California and at Stanford University Medical Schools. The social features and diversions are also there commented upon.

The headquarters are to be at the Fairmont Hotel, which is close to the heart of the city, but out of the beaten track of much of the noise and hurly burly of modern urban life. The Fairmont Hotel is large and spacious and is admirably adapted for convention needs such as come into play at an annual session of the California Medical Association. It has all the proper settings for contact groupings of a family or fraternal nature.

The Committee on Scientific Program and the Committee on Arrangements have given much thought and effort in their desire to make this Sixtieth Annual Session one of the memorable reunions of the members of the California profession. It is safe to promise a pleasant and profitable time to every member who attends.

* * *

The Great Value and Joy from Attendance at Annual California Medical Association Sessions.—Too much emphasis cannot be placed upon the value of attendance at these annual sessions. Members who are in position to go to the meeting and who do not do so, through their absence rob themselves of much that adds to professional living. On this point, one might well refer to one of the opening sentences of Doctor Pepper of Philadelphia, in his Scripps Lecture on Anaemia which is printed in this issue, and wherein he states:

> "There is always benefit in exchange of ideas and in new contacts. Often one gains more at a medical convention from the informal chats in the corridors than from the presentations in the meeting hall."

So if you belong to the group of those who do not enthuse at being in constant attendance in the meeting rooms of the various scientific sessions of the California Medical Association, it is possible that you could still profit at an Annual Session in other ways, as indicated by Pepper. It is a wonderful and beneficial habit to develop, this attendance at annual sessions of our state medical association, with its rubbing of shoulders, greeting of old and new friends, breaking bread in informal exchange of opinion and renewing of faith and inspiration in the atmosphere where all are alert to the bigger and broader and better things and aims of the profession of medicine. Every member of the California Medical Association who can arrange his work to do, should make an earnest effort to go to San Francisco some time between April 26 and April 30.

If you have not made your hotel reservations, you are urged to do so at once, for there is every indication of a very large registration, and hotel accommodations in the associated convention hotels may be somewhat difficult to obtain at the last moment.

Scan also, at your early convenience, the scientific and other programs which are printed in this issue. (See pages 287-308.)

A perusal of the many treats in store may lead you to make a special effort to go to San Francisco. If not, it will be good for you through a perusal of the program, to get at least the spirit of the gathering.

The Sixtieth Annual Session should be a milestone in California Medical Association progress. Your presence as one of the participants will help make it so. Decide, therefore, to be among those present.

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* Editorials on subjects of scientific and clinical interest, contributed by members of the California Medical Association, are printed in the Medicine Today column which follows.

PREMEDICAL COURSES—HAVE THE SCIENCE SUBJECTS BEEN OVERVALUED

On the Cultural Value of Premedical Courses.—In the March number of the *Journal of the Association of Medical Colleges* are two articles of special interest. One, on the "Relative Value of Cultural Courses in Premedical Training," is from the pen of Edward S. Thorpe, Jr., Assistant Dean of the University of Pennsylvania School of Medicine. The other article, captioned "Culture Value of the Medical Curriculum," has as its author E. P. Lyon, Dean of the University of Minnesota Medical School. Dean Thorpe holds an M. D. degree, but Dean Lyon, while a Ph. D., is not a graduate of a medical school.

These two papers brought out a very interesting discussion at the forty-first annual session of the Association of American Medical Colleges, which was held in Denver, October 14-16, 1930. It is significant that the majority of speakers agreed that too much emphasis had been laid upon the value of science studies in the premedical courses. Or to put it in another way, it seemed to be the consensus of opinion that the provision of a stipulated number of compulsory science credits in premedical courses was serving no very special purpose; and that the results of such study courses, as noted in students who had stressed scientific courses in premedical training were such that there could be no warrant for a conclusion that such science studies were preferable to cultural or humanistic studies as a basic preparation of training in and for the practice of medicine.*

* * *

Dean Lyon's Viewpoint on Culture.—The need of culture as a part of the fundamental equipment of a well-trained medical man was emphasized by Lyon and others, the term culture being used in the special sense of catholicity of outlook.

Lyon's concluding paragraph concerning culture brought out the following thought, which to many must appeal as a quite satisfactory concept:

" . . . I am so deeply impressed with the fact that culture is something built on a hereditary foundation, on a temperament, on a broad interest, and so on, that I give very little attention to the avenues through which the man goes to get it. He will get it, I feel certain, if he has the inner urge. It is something far different from the outside coverings, the amenities of life, the ability to choose the right necktie, and so on. It is deeper than habit. It is built on a curiosity and fine feeling which are innate in the individual. It does not matter much through what avenue he pursues it nor to what profession he aims. He will get features of it no matter what his curriculum. . . . "

* * *

Dean Thorpe's Observations on Medical Matriculants and the Need of Broad Learning.—Dean Thorpe wrote of his experiences in the admission and supervision of medical students who had come under his observation. He was impressed by the fact that many applicants for admission in the freshman medical classes seemed more concerned with the submission on their parts, of adequate certificates of ample units in sciences like biology, physics, and chemistry than they were in their capacity to write on their qualifications in clear hand and in good and logical English. In Thorpe's tables dealing with some 644 medical matriculants, the highest honors in medical courses were taken by students who had minimum rather than maximum credits in science.

Apropos of the physician's place in the community. Dean Thorpe brought forward these thoughts:

" . . . From earliest times the physician has held a high position in society. He has maintained this status because he was usually a man of broad learning. Are we not running the risk of turning out men who will be mere scientific robots? . . .

"Are we not graduating men who can speak glibly—though ungrammatically—of the pH of the gastric juice and chemical processes of digestion, but who cause their dinner table partners in polite society to have mental indigestion because of their lack of broad culture?

"Before we demand that all our applicants prepare themselves for a narrow life of research in physiological chemistry or biophysics, let us stop and remember that 98 per cent of them will practice medicine—the Art as well as the Science.

"Let us, therefore, demand merely that our students come to us really knowing the fundamental principles of science and the relation of science to other branches of knowledge.

"Let us not require science in terms of semester hours, but science in terms of actual knowledge. Let us advise young men to ground themselves in the principles of science and to acquire, if possible, a taste for history, philosophy, literature and art so that they may look forward to the fulsome years of middle age and truly say with the poet, 'Forsan et haec olim meminesse juvabit.'"

* * *

Canada Accepts Either an A. B. or B. S. as Ample Premedical Education.—In the discussion of these two papers of Lyon and Thorpe, Dr. J. C. Simpson of McGill University stated that in Canada the possession of either an A. B. or B. S. degree was acceptable in the way of premedical education. He also had noted the proficiency of classically trained men, when they took up the study of medicine, and ended his discussion thus:

---

* On the subject of requirements for admission to the medical colleges, the by-laws of the Association of American Medical Colleges make certain fundamental provisions. The essence of these provisions have been adopted in the medical practice acts of a considerable number of commonwealths of the United States. Some quotations from the by-laws are here made because of their pertinence to the matters under discussion:

"Subsection 1. The minimum of collegiate instruction required for entrance to medical schools and medical colleges in membership in the Association shall be 60 semester hours of work, which shall include the subjects hereinafter specified. . . .

". . . . The 60 semester hours of collegiate instruction, indicated above, shall include a minimum total number of semester hours in each of certain required subjects and the specified science subjects shall include a minimum number of semester hours of laboratory work as follows:

Required Subjects	Minimum Total Semester Hours	Minimum Semester Hours of Laboratory Work
1. General Chemistry (a)..	8	4
Organic Chemistry (b)	4	0
2. Physics (c)	8	2
3. Biology (d)	8	4
4. English Literature and Composition (e)	6	

> ". . . The lesson I learned from that was this: It is not so much the subject that forms the curriculum as it is the way in which that subject is used to give mental training, and that, after all, no matter what instrument is used, if a man gets good mental training, that is going to show up whether he goes into science or into the humanistic studies."

* * *

Professor Novy's Comments on Premedical Education of a Former Generation.—Dr. F. G. Novy of the University of Michigan, in discussing the papers, called attention to the training of not so many decades ago, when with far lesser premedical education and much more limited medical curricula, men were graduated from medical schools, whose names through their observations and writings are still familiar in the annals of medical literature. Professor Novy had the following to say on the premedical education of former days:

> ". . . My earliest experience was in the days when students were admitted from high school. Nowadays we admit them with ninety hours, or four years, and some of them are postgraduates. I have often thought of the good days when students came perfectly fresh from the high school, with an eagerness for knowledge that had not been rubbed down by subsequent work. They were the ones who gave the most enthusiastic attention to the work. We still have, of course, students who work enthusiastically, but there is something that you cannot put your finger on that has been rubbed off, as it were, because they have been initiated into science, and consequently they feel that grades are the most important things with which they can come across."

* * *

Dr. MacTavish Blames the Medical Schools for Overstressing the Value of Grades.—From Dr. W. C. MacTavish's discussion the following is taken:

> ". . . Another thing; the question of grades in undergraduate work. Whose fault is it that the student tries to earn good grades in his courses? It is certainly the fault of the medical schools. They will not take a man unless he has good grades. The thought certainly must be uppermost in the student's mind while at college that he must earn good marks in the sciences and other subjects, otherwise he will have no chance of being admitted to a medical school.
>
> "In regard to culture, I remember very well when students were admitted to medical school directly from high school and the majority were certainly not cultured. I know quite a few of such, some who are members of our faculty, whose appreciation of music, art and literature now compares favorably with men who have taken a doctor's degree in literature or music."

* * *

A Plea for a Certain Amount of High-Grade Didactic Instruction.— Doctor MacTavish also brought forward another thought that might well be pondered over by ultraproponents of scientific and superpremedical courses. His thought has to do with didactic instruction, a something which many physicians who received their training years ago will remember with deep appreciation, as they think of some of their senior professors and masters whose lectures were models and inspirations, not only because of the medical learning contained therein, but because of the classical portrayal in thought and speech.

MacTavish's comments on the value of didactic lectures were as follows:

> ". . . As a corollary to this, I come to a pet hobby of my own, which, to many in this audience, will be heresy. I am one of those who contend there is a place in the medical curriculum for the didactic lecture. I do not think it would be well for medicine should the day arrive when the didactic lecture in the undergraduate training of the student will be entirely superseded. If there is one reason more than another why I think that lecture should be retained—and the Lord knows I do not want it to be retained in the case of every person who might attempt to deliver lectures on his subject, but for the sake of those chosen few who can lecture to medical students in such a way as to instill not only culture but love of their profession, respect for those who have gone before and many other of those qualities which we are in the habit of summing up under the word culture—I think there is sufficient ground for retaining the didactic lecture. . . . "

* * *

These Educational and Training Problems Should Again Be Carefully Studied.—It is evident from what has been above quoted that medical teachers are not a unit in believing that our modern day premedical and medical curricula, the basic requirements of which have been incorporated in so many state medical practice acts, represent the alpha and omega in these lines of education. It is a healthy sign that prominent leaders in our medical schools have the courage to call attention to the deficiencies which exist in some of the standards we have laid down for ourselves. It is quite possible that in the worship of the fetish of standardization which has been so prevalent a vogue in the last two or three decades, that though we have improved certain faults existing in medical schools of the pre-Rockefeller-Flexner report period, we, after all, may not have added so much as we formerly thought to the cultural influence of the medical profession or to the protection of the public health, by the somewhat drastic adoption of these newer standards. We have fewer nonsectarian medical schools it is true, but we also have more cultist schools and a vastly greater number of cultist practitioners who have been launched upon the public, with training in many instances very considerably less than that which would have been given by most of the nonsectarian medical schools which, under the hue and cry of supposedly higher and better standards, were forced out of existence. As a result the public, rather than the profession, pays the price, when such lesser trained sectarian practitioners receive legal licenses to practice.

The Association of American Medical Colleges is to be congratulated upon in again taking up a survey of these problems and studying them anew. The light of the experience as gained in the last two decades should aid us in coming to a better conclusion on the correctness of our theories. If it should be shown that we are in error, we should modify the educational and training requirements of our medical colleges accordingly.

PRESIDENT KINNEY OF THE CALIFORNIA MEDICAL ASSOCIATION VISITS COUNTY SOCIETIES

The By-Laws of the California Medical Association Provide for Visitation of County Societies by the State Society President.—In the by-laws which were adopted by the California Medical Association at its last San Diego annual session it was provided (Chapter VI, Section I) that the president of the California Medical Association during his term of office should visit as far as was practicable "the various sections of the state and assist the councilors in building up the component county societies, and in making their work more practical and useful."

* * *

President Kinney Visited Northern County Societies in March.—At the 1931 spring meeting of the Council, an itinerary was arranged by President Lyell C. Kinney of San Diego for such a series of visits in the county societies of the Sacramento Valley and middle and northern California. In conjunction with district councilors and other officers, a series of meetings was arranged for the first two weeks of March. The preliminary reports which have come to California and Western Medicine of those meetings indicate that President Kinney and his colleagues were not only received in most cordial fashion by the members of the county societies visited, but that the meetings which were held will result in great good to the California Medical Association through the increased interest which was brought out in the discussion of some of the problems of organized medicine in California.

* * *

Such Official Visitation Should Be Made by Every State Society President.—A full report has been promised on this first official tour of some of the California county societies by a state society president. In the meantime California and Western Medicine wishes to express the appreciation of the Association to the members of the county societies who attended these recent meetings, many members in northern counties traveling long distances in order to be present. California and Western Medicine desires also to express the hope that from now on it shall be understood that any member who accepts the high office and honor of the presidency of the California Medical Association will be expected as a gesture of return appreciation on his part to plan for a series of visits such as was this year inaugurated by President Kinney. Every component county society needs such official visitation annually and will be the better for the entertainment of such official guests, through the greater interest in the broader aspects of organized medicine work which will result therefrom.

FURTHER COMMENT ON PUBLIC HEALTH LEGISLATION

The California State Legislature Is in Session. When the state legislature is in session, officers of the California Medical Association who have special responsibilities in watching all proposed laws which have a bearing on public health and medical profession interests are in a state of mental suspense that is anything but soothing. For as with juries, there is no way of knowing what a legislature will do, or rather, what some of its members will or would do.

A few comments on some of the current worries of certain of the California Medical Association officers and its Committee on Public Policy and Legislation may be of interest at this time.

* * *

How Senate Bill 175 (Fellom) Came Out of Committee Without Warning.—Witness, for instance, as a good "worry example," the Associated Press dispatch from Sacramento which was printed in the daily press on the day on which these lines were written. The item has to do with Senate Bill 175 (Fellom), the title of which was noted on page 223 of the March issue of California and Western Medicine. That title seemed innocent enough. Not so the text of the bill, because it would practically legalize the practice of medicine by corporations. Without warning and without giving the Sacramento representatives of the California Medical Association an opportunity to be heard, that bill was favorably reported out of committee as per the Associated Press dispatch taken from the Los Angeles *Times,* which follows:

> Hospital Service Control Bill Approved
>
> Sacramento March 18 (AP).—The State Government Efficiency Committee today approved for passage Senator Fellom's bill providing for state control of medical and hospital service companies through a commissioner appointed by the Governor.
>
> The commissioner would be connected with the State Department of Investment and would function part time with a $2400 annual salary. He would license medical and hospital service companies at $250 for the first year and $125 each subsequent year.

The unexpected action noted in the above newspaper item necessitated immediate effort from different parts of the state, so that State Senators might be made acquainted with the fact that the proposed law would practically give corporations the legal right to practice medicine for profit, a something to which all members of the profession who believe in the protection of professional standards must make objection.

* * *

Senate Bill 175 (Fellom) Would Nullify Superior Court Judge Blake's Opinion.—On page 846 of the November 1930 number of California and Western Medicine was printed the opinion of Superior Court Judge Samuel R. Blake. That opinion, under present conditions, is again worthy of perusal. From it two paragraphs will be here quoted:

> " . . . If, in the last analysis, corporations are allowed to practice medicine as a general proposition, it is the opening wedge to the commercialization of the practice of the learned profession of medicine, and permits the creeping in of many unethical and uncontrollable factors which the law has heretofore rigidly sought to avoid. . . .
>
> " . . . Unquestionably, if the corporation does not come within the provisions of the Medical Practice Act, it would be immune from its penalties or provisions; therefore it is important to the welfare of the people of the State of California; and hence, the importance of the prohibiting of a corporation from practicing medicine as a corporation and engaging in that business through its agents for profit. . . . "

All county society committees will no doubt watch this bill and coöperate in fullest measure with the California Medical Association Committee on Public Policy and Legislation, of which President-Elect Junius B. Harris of Sacramento is the chairman.

* * *

Assembly Bill 477 (Neilson) for State Medical Libraries.—The state medical library bill, which was reintroduced in the present session of the legislature, was briefly presented and discussed on page 893 of the December 1930 number of California and Western Medicine. The bill, as submitted, was a modification of the measure which was introduced two years ago. A few words of further review may again be made for the benefit of those who may have given no attention to this measure in the past.

Inasmuch as California maintains at Sacramento a state general library which operates under the jurisdiction of the California Department of Education, it was assumed that the proposed "state medical library" should naturally find a place under the same department (as a subdivision of the state general library). Because the funds to be expended were public moneys which could only be expended through public departments or agencies, and in order to do away with the maintenance expense of rentals of quarters for branches at San Francisco and Los Angeles, it was provided that such branches when established should be housed in buildings of the University of California.

It was found, however, that the California Department of Education was not favorably inclined to taking over the supervision of such a state medical library. It was also learned that a system of divided control was not deemed desirable by the regents of the University of California. The bill was accordingly rewritten so that the state medical libraries should be under the control of the state university, with divisions of approximately equal size in San Francisco and Los Angeles. The libraries would work in close coöperation with existing medical libraries in those cities and would aim to particularly provide "packet library service," which would promptly, through the mails, bring books and literature on any subject to members of the profession in the northern and southern sections of California. It is hoped that the bill as amended will go on to passage.

In the December California and Western Medicine editorial above referred to it was stated:

> " . . . The basic thought in such a proposal rested on the principle that these reserve funds being now in excess of the requirements and needs of the California Board of Medical Examiners, and having arisen from special taxes on physicians, should not be diverted into the general expense funds of the state to be used on roads or other state activities; but should go back to the physician citizens to be used in a state activity that would work to the betterment of California's public health interests. A state medical library seemed a fitting means by which such allocation of funds could be more than justified. . . . "

That the possibility of diversion of professional examining board funds being diverted back into the general funds of the state was not a figment of the imagination of the editor is shown in Assembly Bill 547, in which it is provided that certain funds from the pharmacy board shall be diverted into the general fund.

And as this is written it has come to us that a similar attempt may be made on reserve funds of the California Board of Medical Examiners. It is to be hoped that this information is only an idle rumor, but if it should materialize, then the five thousand members of the California Medical Association, with all the influence which that organized group of physicians can exert, should do their utmost to inform state officials and state senators and state assemblymen why such a course of action would be most unjust and improper (in view of the manner in which those reserve funds have been accumulated from medical men and women only). Of that, however, more, if occasion should arise. It is to be hoped that no such occasion will present itself.

* * *

Senate Bill 463 (Williams) on Interne Year Requirement.—This bill would have amended Section 9 of the California Medical Practice Act in such form that one year of interneship or equivalent training would have been added to the present four-year medical course. This bill went down to defeat in committee under the onslaught of the osteopathic practitioners, who, when they secured their initiative for an independent board several years ago, tied their initiative law into the state medical practice act. On that account, any attempt by nonsectarian physicians to raise the standards of nonsectarian licensure brings into being at once most determined opposition from these cultist practitioners, since the amendments would apply to osteopaths also. Of all this also more, perhaps, at some other time. The whole story is true, but very sad.

* * *

Assembly Bill 1281 (Jeperson and Bliss) for a Board of Naturopathic Examiners.—This bill proposes to create a Board of Naturopathic Examiners. It would let down the bars and open wide the gates for licensing an unlimited number of individuals without any demand on the part of the state, for real qualifications. After the licenses were issued the "naturopathic doctors" would be permitted to use drugs, but would be prohibited from doing "major surgery," a term most difficult to legally define, and with the implication that they might be permitted to do "minor surgery (whatever that is, in law). If space permitted, the deficiencies of this proposed bill, from the standpoint of modern-day university standards of medical training, might be further discussed. The bill is mentioned so that its number may be remembered.

* * *

A Proposed Bill to License Clinics and Health Centers, Sponsored by the Los Angeles County Health Officer and Board of Supervisors.—A proposed law which has been drafted, but which at the time of this writing has not yet been introduced into the legislature, is one that would demand that every clinic, health center or institution of similar designation or import, which cared for ambulatory patients, would be required to secure a license annually from the California State Board of Health. This bill was prepared by Dr. J. L. Pomeroy, County Health Officer of Los Angeles, and has received the endorsement of the Los Angeles County Board of Supervisors. It was worked over by the Medical Advisory Board of the Los Angeles County Health Department, and was also considered by the proper committees of the California Medical Association. This bill is modeled somewhat after similar laws which have been enacted in the states of Massachusetts and New York. The major object in the measure is to bring about an annual registration of every such clinic or similar institution in California, in order that the public health interests might be properly safeguarded. There was no thought to interfere with the full activities of legitimate clinics, but it was kept in mind that there was great need for some type of inspection and licensure so that organizations or institutions which do not measure up to proper standards or which were organized for ulterior motives might come under routine supervision.

Members of the California Medical Association will no doubt remember that at the last annual session of the California Medical Association the Committee on Medical Economics, through a special subcommittee of which Dr. John C. Ruddock was chairman, brought in a report on the findings which had been gathered in a preliminary survey of clinics and dispensaries in California. This report of Doctor Ruddock was printed in the July 1930 number of California and Western Medicine, page 527.

The bill which was drafted by Dr. Pomeroy is in full line and sympathy with the recommendations made in the above mentioned report. It is hoped that this particular bill will also go on to passage.

* * *

Other Proposed Laws.—The March number of California and Western Medicine, page 223, listed four pages of other proposed laws having a relationship to public health and medical profession interests. Even those there listed did not represent the complete summary of all such measures. Each of the proposed laws which was listed was considered in a recent all-day joint session of the Executive and Public Policy and Legislation Committees of the California Medical Association and all will be closely watched by the state association officers.

It is not possible to consider all these bills in detail in California and Western Medicine. County society presidents and secretaries should remember that every county society should have a committee on public policy and legislation, keeping in mind always, however, that every such county society committee should work always through the state society Committee on Public Policy and Legislation.* In that way, when emergency situations arise, much more efficient work can be accomplished. In grave situations, (and grave situations arise during a session of the legislature) rifle slugs are often more effective than shotgun ammunition. On all this and related matters, perhaps mention will again be made in a future number of California and Western Medicine.

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* The California Medical Association Committee on Public Policy and Legislation consists of Dr. Junius B. Harris, chairman, 1127 Eleventh Street, Sacramento; Dr. William Duffield, 516 Auditorium Building, 427 West Fifth Street, Los Angeles; Dr. Joseph Catton, 490 Post Street, San Francisco; Dr. Lyell C. Kinney, 510 Medico-Dental Building, 233 A Street, San Diego. Any member may be consulted, but always send confirming memoranda to the chairman, Doctor Harris.—G. H. K.

Paralyzed Muscles Yield to Exercise in Warm Water.—Muscle training under water has come to be one of the most useful methods of treating persons who have had infantile paralysis. A unique sanatorium at Warm Springs, Ga., devoted exclusively to this treatment, is described by Mrs. Edith Reeves Salenberger in the October issue of *Hygeia.*

Warm Springs takes its name from powerful springs of mineral water that has a temperature of 89 degrees Fahrenheit the year round. In 1924 Franklin D. Roosevelt, governor of New York, who had been severely crippled by an attack of poliomyelitis in 1921, visited Warm Springs. He was greatly benefited by the treatment and determined that the place should be made available to victims of the crippling disease.

In 1927 Mr. Roosevelt organized the Georgia Warm Springs Foundation as a charitable institution not run for profit. Philanthropic gifts made possible the erection of buildings and maintenance of a staff. As it has no endowment fund the Foundation cannot admit free patients, but the charges are moderate and cover only the actual cost per patient.

An orthopedic surgeon is in charge of the experiment. A graduate nurse who is a trained physiotherapist heads a staff of ten or twelve young women who give the treatments in the pools. A medical attendant holds a clinic three times a week and his services are available at other times when needed. Atlanta's hospitals, seventy-five miles away, are available for unusual emergencies.

Except for their routine of treatments, meals and sleep, patients at Warm Springs lead free, simple lives of their own choices. The Foundation does not wish to develop a hospital and the general atmosphere is unlike a hospital even to the extent that the staff members do not wear uniforms. Patients receive all the help they need, but they are encouraged to do more for themselves as their strength increases.—*Hygeia.*

MEDICINE TODAY

This department of California and Western Medicine presents editorial comment by contributing members on items of medical progress, science and practice, and on topics from recent medical books or journals. An invitation is extended to every member of the California, Nevada and Utah Medical Associations to submit brief editorial discussions suitable for publication in this department. No presentation should be over five hundred words in length.

Swollen Feet and Ankles.—Not infrequently patients, especially women, complain and suffer from "puffiness" of the ankles and feet. Their suffering is in part actual, making walking and prolonged standing impossible; in part, also, however, it is merely psychic since the large ankles are unsightly and insult the aesthetic sense of the patient. This latter is the reason why dancing and other enjoyments such as golfing, tennis, etc., all of which necessitate walking or running, are so frequently given up.

These patients travel from pillar to post seeking a cure; from chiropractor to beauty parlor, in order to have the contour of their feet and legs restored. No amount or mode of physical therapy, no massage or manipulation gives them any tangible and permanent result.

The failure of cure can be ascribed to the lack of proper diagnosis. First determine the cause of the illness and only then institute the adequate treatment.

It is necessary to differentiate these conditions from edemata which are accompanied by albumin in the urine due to circulatory disturbance. Foot edema will arise in heart disease or in the course of any exhausting and delibitating disease which has weakened the heart action. It will very frequently occur in obstructive valvular heart conditions and in diseases of the lung and kidney. Among the other constitutional causes which lead to foot-swelling, the anemias are of the most frequent offenders.

Varicose veins, phlebitis, and obstruction of the lymph vessels are the local factors which result in the same symptom.

Another cause for puffy ankles and legs is the increase of subcutaneous fat. It may be a local manifestation of general obesity or it may be a localized adiposis.

All these conditions are enumerated merely as differential diagnostic possibilities; they are to be excluded by clinical and laboratory findings in order to arrive at the diagnosis of "swollen feet" of unknown origin.

Pathologically there is an excess of water in the tissues, a true edema, which is the cause of the thickening of the feet, ankles, and leg.

No other explanation for this phenomenon of water accumulation in the tissues can be advanced than that it is an acidosis. The exact cause of the acidosis is not always determinable, and, as a matter of fact, not demonstrated for a certain length of time. Only when the water gathers in the feet and legs, the edema makes itself visible. The lower extremities become affected by virtue of gravitation of the water after a prolonged upright position.

The physiological basis for this constitutional condition of acidosis is explained by a reduction of the concentration of the bicarbonates in the blood plasma, compared to the normal state. Whatever produces this change in the bicarbonate value in the plasma, is not exactly known.

Knowing that this condition of edema is but a local manifestation of a constitutional acidosis, the treatment should be outlined to overcome the state of the general body. Alkalinization of the tissues should be the aim. This is attained by reducing the acid-forming substances in the food. The carbohydrates must be eliminated or markedly reduced in accordance with the need and effect; but the vegetable and fruit intake, mainly citrus fruits, should be greatly augmented in the diet.

In addition to this, the patient must take alkalies in sufficient doses in order to raise the carbonates of the blood plasma and to increase the alkalinity of the tissues generally. The most useful alkali for this acidosis is sodium bicarbonate and potassium citrate. The amount necessary to be taken of each of these substances will depend upon the tolerance of the individual and the degree of the acidosis. The minimum of 30 grains of each may suffice; and a maximum of 300 grains of each may have to be administered daily to gain the necessary effect.

A. GOTTLIEB, Los Angeles.

Tannic Acid Again.—The use of 5 to 10 per cent aqueous solutions of tannic acid has been accepted by most workers as the treatment par excellence, to date, for burns. Reasoning from above, it has been my practice to treat all abrasions and superficial lacerations by painting with 5 to 10 per cent tannic acid. A small compress of tannic acid applied for one hour will have the desired effect. The abrasion or superficial laceration becomes covered with a hard, tough, aseptic, tanned crust or slough. Epidermization takes place beneath the crust, and no stage of moist granulation develops, thus avoiding an infected granulating ulcer and the lymphangitis and cellulitis that sometimes complicates healing.

I am positive that the indolent slow-healing ulcers resulting from abrasions of the lower extremities will heal rapidly under similar treatment. It is a well-known fact that any wound heals more rapidly under a sterile crust of dried exudate than under any other dressing. Tannic acid solution produces a sterile crust with a minimum of tissue damage. A large field for this type treatment is in the abrasions and superficial lacerations of the extremities of children.

EDMUND BUTLER, San Francisco.

Program

THE SIXTIETH ANNUAL SESSION
of the
CALIFORNIA MEDICAL ASSOCIATION
To be held at
FAIRMONT HOTEL, SAN FRANCISCO, APRIL 27-30, 1931

OFFICERS AND COMMITTEES, 1931

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JUNIUS B. HARRIS, Sacramento, President-Elect
EDWARD M. PALLETTE, Los Angeles, Speaker of House of Delegates
JOHN H. GRAVES, San Francisco, Vice-Speaker of House of Delegates
EMMA W. POPE, San Francisco, Secretary-Treasurer and Associate Editor
GEORGE H. KRESS, Los Angeles, Editor
HARTLEY F. PEART, San Francisco, General Counsel
HUBERT T. MORROW, Los Angeles, Associate General Counsel

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Los Angeles County

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Gayle G. Moseley, Redlands (1931)
Kern, San Bernardino, San Luis Obispo, Santa Barbara and Ventura Counties

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Fred R. De Lappe, Modesto (1932)
Calaveras, Fresno, Inyo, Kings, Madera, Mariposa, Merced, Mono, San Joaquin, Stanislaus, Tulare and Tuolumne Counties

Fifth District
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San Francisco County

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T. Henshaw Kelly, San Francisco (1933)
Edward N. Ewer, Oakland (1931)

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Dudley Smith Oakland	(1931)	Joseph Catton San Francisco
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Irving Ingber San Francisco	(1931-1932)	W. Stevens(resigned) San Francisco
Percy T. Magan Los Angeles	(1931-1932)	Charles D. Lockwood Pasadena
Junius B. Harris Sacramento	(1931-1932)	John H. Shephard San Jose

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The President, the President-Elect, the Speaker of the House of Delegates, the Secretary-Treasurer, the Editor, and the Chairman of the Auditing Committee. (Committee Chairman, T. Henshaw Kelly; Secretary, Emma W. Pope.)

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R. Manning Clarke (Chairman), Los Angeles	1931

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James F. Churchill, San Diego	1932
Robert T. Legge (Chairman), Berkeley	1931
The Secretary	Ex-officio

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Fred B. Clarke (Chairman), Long Beach	1932
Gertrude Moore, Oakland	1931

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John C. Ruddock (Chairman), Los Angeles	1932
Walter B. Coffey, San Francisco	1931

Committee on Industrial Practice

Mott H. Arnold, San Diego	1933
Packard Thurber, Los Angeles	1932
Ross W. Harbaugh (Chairman), San Francisco	1931

Committee on Medical Economics

Ruggles A. Cushman, Santa Ana	1933
John H. Graves (Chairman), San Francisco	1932
Jos. M. King, Los Angeles	1931

Committee on Medical Education and Medical Institutions

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George Dock (Chairman), Pasadena	1932
H. A. L. Ryfkogel, San Francisco	1931

Committee on Medical Defense

Fred R. De Lappe, Modesto	1933
George G. Reinle (Chairman), Oakland	1932
Henry Snure, Los Angeles	1931

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Harlan Shoemaker, Los Angeles	1932
LeRoy Brooks (Chairman), San Francisco	1931
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Percy T. Phillips, Santa Cruz	1931
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The Editor	Ex-officio

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The President-Elect	Ex-officio

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Karl L. Schaupp, San Francisco	1932
Lemuel P. Adams, Oakland	1931
Verne R. Mason, Los Angeles	1931
Clarence E. Rees, San Diego	1931
Secretary (Chairman)	

SPECIAL COMMITTEES

Committee on Arrangements—Annual Session

T. Henshaw Kelly (Chairman)	San Francisco
Arthur L. Bloomfield (General Meeting Program and Invited Guests)	San Francisco
Howard C. Naffziger (Clinics)	San Francisco
Daniel W. Sooy (General Arrangements)	San Francisco
F. T. Sheehy (Golf)	San Francisco
The Secretary	Ex-officio

Special Committee on Clinical and Research Prizes*

George Dock (Chairman), Pasadena	1933
Emmet Rixford, San Francisco	1932
Eugene S. Kilgore, San Francisco	1931

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* Each year the California Medical Association offers two prizes of One Hundred and Fifty Dollars each, with certificates of award, for the two best papers on clinical and research subjects. Full information concerning the conditions laid down in these competitions may be had by addressing the Association secretary.

GUEST SPEAKERS AT THE SIXTIETH ANNUAL SESSION CALIFORNIA MEDICAL ASSOCIATION

WILLIAM LLOYD AYCOCK, M. D.
Department of Preventive Medicine and Hygiene, Harvard University, Boston, Massachusetts

JEAN OLIVER, M. D.
Department of Pathology, Long Island College of Medicine, Brooklyn, New York

VILRAY P. BLAIR, M. D.
Professor of Clinical Surgery, Washington School of Medicine, St. Louis.

E. T. BELL, M. D.
Professor of Pathology, University of Minnesota Medical School.

RALPH M. WATERS
Associate Professor of Surgery, University of Wisconsin Medical School, Madison.

SCIENTIFIC EXHIBITS

I. The staff of the Mt. Zion Hospital will exhibit material relative to the following subjects:
   1. The influence of potassium on cardiac irregularities—Electrocardiograph studies.
   2. Interesting cardiac arrhythmias.
   3. A motion-picture film showing operative technique for pulmonary embolectomy.
   4. Studies in uterosalpinography.
   5. Laboratory demonstration of the Aschheim-Zondek test.
   6. Unusual pathological specimens.
   7. Interesting urological material.
   8. Study of neuromata of the appendix.
   9. Recent developments in spinal anesthesia.

   Other exhibits may also be included.

II. Radiological Exhibit.

   Viewing boxes will be found in the rear of the General Sessions meeting room.

III. Pathological Exhibit.

   Pathologic specimens will be exhibited in the room adjoining the Gold Room.

IV. Exhibit by American Heart Association.

V. Exhibit of new instrument.

MEMBERSHIP, 1931 HOUSE OF DELEGATES

DELEGATES—EX-OFFICIO

Lyell C. Kinney, San Diego	President
Junius B. Harris, Sacramento	President-Elect
Emma W. Pope	Secretary-Treasurer
Edward M. Pallette, Los Angeles	Speaker of House of Delegates
John H. Graves, San Francisco	Vice-Speaker of House of Delegates
George H. Kress	Editor
Mott H. Arnold, San Diego (1932)	Councilor 1st District
William Duffield, Los Angeles (1933)	Councilor 2nd District
Gayle G. Moseley, Redlands (1931)	Councilor 3rd District
Fred R. De Lappe, Modesto (1932)	Councilor 4th District
Alfred L. Phillips, Santa Cruz (1933)	Councilor 5th District
Walter B. Coffey, San Francisco (1931)	Councilor 6th District
Oliver D. Hamlin, Oakland (1932)	Councilor 7th District
Robert A. Peers, Colfax (1933)	Councilor 8th District
Henry S. Rogers, Petaluma (1931)	Councilor 9th District
George G. Hunter, Los Angeles (1932)	Councilor-at-Large
Ruggles A. Cushman, Santa Ana (1933)	Councilor-at-Large
William H. Kiger, Los Angeles (1931)	Councilor-at-Large
Joseph Catton, San Francisco (1932)	Councilor-at-Large
T. Henshaw Kelly, San Francisco (1933)	Councilor-at-Large
Edward N. Ewer, Oakland (1931)	Councilor-at-Large

ELECTED DELEGATES

Delegates	Alternates
Alameda County (9)	
L. P. Adams	D. M. Allen
B. W. Black	F. H. Bowles
Daniel Crosby	W. L. Channel
C. A. Dukes	W. G. Donald
Robert A. Glenn	J. N. Ewer
W. H. Irwin	T. C. Lawson
C. L. McVey	Roy F. Nelson
Gertrude Moore	O. T. McAllister
G. G. Reinle	J. M. Reeves
Butte County (1)	
J. J. L. Doyle	J. O. Chiapella
Contra Costa County (1)	
U. S. Abbott	J. F. Feldman
Fresno County (3)	
D. I. Aller	A. E. Anderson
Guy Manson	C. O. Mitchell
T. F. Madden	Neil Jorgensen
Humboldt County (1)	
Burpee Cooper	Orris Myers
Imperial County (1)	
Eugene LeBaron	W. W. Apple
Kern County (1)	
F. J. Gundry	E. A. Schaper
Lassen-Plumas County (1)	
G. R. Fortson	George S. Martin
Los Angeles County (36)	
S. M. Alter	I. R. Bancroft
John V. Barrow	Fred B. Clarke
Walter P. Bliss	John C. Irwin
R. S. Cummings	H. W. Levengood
Robert V. Day	T. C. Lyster
George Dock	H. G. McNeil
Walter L. Huggins	R. P. McReynolds
William W. Hutchinson	A. J. Murrieta
Louis Josephs	Thomas C. Myers
William H. Kiger	John P. Nuttall
Joseph M. King	Sterling N. Pierce
Percy T. Magan	J. E. Pottenger
William R. Molony	Albert Soiland
Charles E. Phillips	Joseph K. Swindt
Carl W. Rand	H. B. Tebbetts
Harlan Shoemaker	Neal N. Wood
Henry Snure	Walter A. Bayley
C. G. Toland	John H. Breyer
B. Von Wedelstaedt	O. W. Butler
Peter H. Blong	R. Manning Clarke
Harry V. Brown	Philip S. Doane
John W. Crossan	Newton Evans
William H. Daniel	L. R. Lewis
John Dunlop	Sven Lokrantz
J. Frank Friesen	Lyle G. McNeile
O. E. Ghrist	Carl H. Parker
Scott D. Gleeten	R. E. Ramsay
Carl R. Howson	John C. Ruddock
F. C. E. Mattison	A. J. Scott
George D. Maner	R. W. Schaeffer
James F. Percy	Eleanor Seymour
Russell Sands	Leroy B. Sherry
C. N. Suttner	Leon Shulman
F. C. Swearingen	Pierre Viole
Howard L. Updegraff	W. F. Wessels
Harry H. Wilson	C. A. Wright

Delegates	Alternates
Marin County (1)	
H. O. Hund	J. H. Kuser
Mendocino County (1)	
	Raymond Babcock
Merced County (1)	
Chester A. Moyle	Fred O. Lien
Monterey County (1)	
W. H. Bingaman	W. M. Gratiot
Napa County (1)	
M. M. Booth	C. A. Johnson
Orange County (2)	
Dexter R. Ball	George M. Tralle
Harry E. Zaiser	William S. Wallace
Placer County (1)	
C. C. Briner	Carl P. Jones
Riverside County (2)	
Paul F. Thuresson	Thomas A. Card
S. H. Keller	A. L. Bramkamp
Sacramento County (3)	
Gustave Wilson	Edward W. Beach
William H. Pope	William A. Beattie
Hans F. Schluter	G. Parker Dillon
San Benito County (1)	
R. L. Hull	R. W. O'Bannon
San Bernardino County (3)	
D. C. Mock	W. W. Savage
E. L. Tisinger	F. F. Abbott
Walter Pritchard	D. B. Williams
San Diego County (5)	
Thomas O. Burger	Andrew J. Thornton
Fraser L. Macpherson	George B. Worthington
Clarence E. Rees	L. W. Zochert
William H. Geistweit, Jr.	Chas. William Brown
S. J. McClendon	W. H. Barrow
San Francisco County (18)	
Philip H. Arnot	Edwin L. Bruck
Elbridge J. Best	C. L. Callander
Walter W. Boardman	Elizabeth A. Davis
LeRoy Brooks	William Dock
Harold Brunn	Randolph G. Flood
Edward C. Bull	Mary E. Glover
Howard W. Fleming	Irving S. Ingber
Henry W. Gibbons	Albert E. Larsen
Alexander S. Keenan	Robert C. Martin
William J. Kerr	Stanley H. Mentzer
Alson R. Kilgore	Lewis Michelson
Langley Porter	Kaspar Pischel
George K. Rhodes	I. W. Thorne
H. A. L. Ryfkogel	Edward B. Towne
Karl L. Schaupp	Wm. C. Voorsanger
John H. Woolsey	Rodney A. Yoell
Robert R. Newell	L. Henry Garland
Frederick H. Rodenbaugh	M. R. Ottinger
San Joaquin County (2)	
J. W. Barnes	G. H. Rohrbacher
B. J. Powell, Sr.	Margaret Smythe
San Luis Obispo County (1)	
H. A. Gallup	H. S. Walters
San Mateo County (1)	
E. F. Ziegelman	George W. Sevenman
Santa Barbara County (2)	
Henry J. Ullman	Wm. J. Mellinger
Hugh Feidell	Wm. H. Eaton
Santa Clara County (3)	
E. M. Miller	C. K. Canelo
A. A. Shufelt	Dell Lundquist
George Barry	Cletus Sullivan
Santa Cruz County (1)	
Ehler Eiskamp	Percy T. Phillips
Shasta County (1)	
Earnest Dozier	Ferdinand Stabel
Siskiyou County (1)	
Victor Hart	Ruth Hart
Solano County (1)	
R. S. Leachman	John W. Green
Sonoma County (1)	
Chester Marsh	J. Walter Seawell
Stanislaus County (1)	
R. S. Hiatt	J. A. Porter
Tehama County (1)	
J. H. Belyea	F. J. Bailey
Tulare County (1)	
H. G. Campbell	S. S. Ginsberg
Tuolumne County (1)	
Homer D. Rose	Wm. L. Hood
Ventura County (1)	
W. S. Clark	John Bardill
Yolo-Colusa-Glenn County (1)	
Oscar C. Railsback	Thomas E. Cooper
Yuba-Sutter County (1)	
P. B. Hoffman	N. E. Richardson

WILLIAM W. HUTCHINSON
Chairman of Anesthesiology Section

HIRAM E. MILLER
Chairman Dermatology and Syphilology Section

ANDREW B. WESSELS
Chairman Eye, Ear, Nose and Throat Section

ERNEST H. FALCONER
Chairman General Medicine Section

LEMUEL P. ADAMS
Chairman General Surgery Section

ROBERT W. WILCOX
Chairman Industrial Medicine and Surgery Section

MEETINGS, DINNER AND LUNCHEONS

Hours and Places Where Held

Meetings

Meetings of the House of Delegates.—Monday and Wednesday evenings, April 27 and 29, at 8 p. m. in Gold Room, Fairmont Hotel.

Council Meetings—Room 126:
First meeting, Sunday, April 26, 8 p. m.
Second meeting, Monday, April 27, 2:30 p. m.
Third meeting, Tuesday, April 28, 2:30 p. m.
Fourth meeting, Wednesday, April 29, 2:30 p. m.
Fifth meeting, Thursday, April 30, 9:30 a. m.

General Meetings

Monday, 11 to 12:30 p. m.—Presidential addresses, Gold Room.

Tuesday, 1 to 2:30 p. m.—Addresses by Invited Guest Speakers, Gold Room.

Wednesday, 1 to 2:30 p. m.—Addresses by Invited Guest Speakers, Gold Room.

Thursday, 11:30 a. m. to 12:30 p. m.—Medical Economics meeting.

General Outline of Various Meetings and Entertainment

April 26-30	Morning Hours	12:30-1 p. m.	1:30-2:30 p. m.	2:30-5 p. m.	8 p. m.
Sunday					Council
Monday April 27	Registration 11-12:30 p. m. General Session	Luncheon		Section Meetings. Council Meeting	First House of Delegates Meeting
Tuesday April 28	9-12 noon Clinics at Stanford and U. C.	Luncheon	General Session (All sections)	Section Meetings. Council Meeting	Reception to the President. Dance
Wednesday April 29	9-12 noon Clinics at Stanford and U. C.	Luncheon	General Session (All sections)	Section Meetings. Council Meeting	Second House of Delegates Meeting
Thursday April 30	9-11:30 a. m. Section Meetings Council Meeting 11:30-12:30 p. m. Economics Meeting (All sections)	Luncheon	Golf Tournament		

GEORGE G. HUNTER
Chairman Neuropsychiatry Section

WILLIAM H. GILBERT
Chairman Obstetrics and Gynecology Section

ERNEST M. HALL
Chairman Pathology and Bacteriology Section

DONALD K. WOODS
Chairman Pediatrics Section

CHARLES M. RICHARDS
Chairman Radiology Section

HARRY W. MARTIN
Chairman Urology Section

MEETINGS, DINNER AND LUNCHEONS

See Bulletin Boards for Other Announcements

Organization Meetings of All Standing Committees.—Members of all Standing Committees should meet in the Lounge early on Thursday morning to organize for the coming year by the election of a chairman and secretary, and appointment of advisory members—and to discuss plans for the next year's work.

Dinner

President's Dinner Dance.—Tuesday evening, Terrace Room and Ballroom, Fairmont Hotel, 7 p. m. Make reservations at registration desk. Dinner tickets, $3.50.

Luncheons

Fraternity Luncheons—The San Francisco Graduate Club of *Phi Delta Epsilon* Fraternity cordially invites all fraters attending the convention to attend a buffet supper to be given at the Palace Hotel at 8 p. m., April 29. For further information, see the secretary, A. Bernstein, M.D., 350 Post Street, San Francisco.

There will be a luncheon of *Phi Rho Sigma* Alumni on Tuesday, April 28. Place will be announced on the bulletin board at the registration desk.

DIAGRAM OF SECTION MEETINGS—FOUR-DAY SESSION

Date	Red Room	Terrace	Gold Room	Vanderbilt Room	Little Theater	California Room	Little Grill	Green Room	Tapestry Room
Mon. April 27 2:30 to 5 p. m.	Joint Meeting Medicine and Pathology	Surgery		Neuropsychiatry	Urology	Obstetrics		Industrial Medicine	Dermatology
Tues. April 28 2:30 to 5 p. m.	Medicine	(Surgery in Gold Room)	Joint Meeting Surgery and Anes.	Pathology	Urology	Pediatrics	Radiology	Industrial Medicine	Dermatology
Wed. April 29 2:30 to 5 p. m.	Joint Meeting Medicine and Pathology	Surgery		Neuropsychiatry	Eye, Ear, Nose and Throat	Gynecology	Radiology	Anesthesiology	Urology
Thurs. April 30 9 to 11:30 a. m.	Medicine	Surgery		Pathology	Eye, Ear, Nose and Throat	Pediatrics	Radiology		

PROGRAM, HOUSE OF DELEGATES MEETINGS

Gold Room, Fairmont Hotel

PROGRAM OF FIRST MEETING

Monday, April 27, 8 p. m.

Members of the California Medical Association who attend are requested not to take seats reserved for delegates.

Order of Business

1. Call to order.
2. Announcement by the Speaker on personnel of:
   (a) Credentials Committee.
   (b) Reference Committee on Reports of Officers and of Standing Committees.
   (c) Reference Committee on Resolutions and on New and Miscellaneous Business.
3. Report of Credentials Committee.
4. Roll Call.
5. Report of President Lyell C. Kinney.
6. Report of the Council, Oliver H. Hamlin, Chairman.
7. Report of the Auditing Committee, T. Henshaw Kelly, Chairman.
8. Report of the Secretary, Emma W. Pope.
9. Report of the Editor, George H. Kress.
10. Report of the General Counsel, Hartley F. Peart.
11. Unfinished business.
12. New business. (Introduction of resolutions.)
13. Reading and adoption of minutes.
14. Adjournment.

* * *

PROGRAM OF SECOND MEETING

Wednesday, April 29, 8 p. m.

Members of the California Medical Association who attend are requested not to take seats reserved for delegates.

Order of Business

1. Call to order.
2. Roll Call.
3. Announcement of meeting place of 1932 annual session.
4. Election of:
   (a) President-elect.
   (b) Speaker of House of Delegates.
   (c) Vice-speaker of House of Delegates.
   (d) Councilors.
      Third District—Incumbent, Gayle G. Moseley, Redlands (1931).
      Sixth District—Incumbent, Walter B. Coffey, San Francisco (1931).
      Ninth District—Incumbent, Henry S. Rogers, Petaluma (1931).
      Councilors-at-Large—Incumbent:
         William H. Kiger, Los Angeles, 1931.
         Edward N. Ewer, Oakland, 1931.
   (e) Delegates and Alternates to American Medical Association for sessions 1932-1933.
      Incumbents of sessions 1930-1931 are:

Delegates	Alternates
Dudley Smith, Oakland	Joseph Catton San Francisco
F. C. E. Mattison Pasadena	James F. Percy Los Angeles
Albert Soiland, Los Angeles	William H. Gilbert Los Angeles
Incumbent of sessions 1931-1932 is:	W. E. Stevens (Resigned as alternate to Irving S. Ingber, 1931-1932)

   (f) Program Committee for 1931-1934:
      Incumbent—Lemuel P. Adams, Oakland.
5. Report of Reference Committee on Reports of Officers and Standing Committees.
6. Report of the Reference Committee on Resolutions and on New and Miscellaneous Business.
7. Presentation of President.
8. Presentation of President-elect.
9. Reading and adoption of minutes.
10. Adjournment.

GENERAL INFORMATION

Registration and Information.—The registration and information desk is located in the lobby, Fairmont Hotel. All persons attending the convention, whether members or not, are requested to register immediately on arrival. Beginning Monday, April 27, registration secretaries will be on duty daily from 9 a. m. until 5 p. m.

Guests and Visitors.—All guests and visitors are requested to register. All general meetings and scientific meetings are open to visitors and guests.

Badges.—Four kinds of badges will be issued by the registration bureau:

1. Members.—Only active, associate, retired or honorary members of the California Medical Association will be issued the usual membership badge. Members must show membership cards when they register.

2. Guest.—A guest badge will be issued to all fraternal delegates, visiting physicians, wives of members, and technical specialists who are attending the 1931 session.

3. Delegates and Alternates—The usual official badge for each delegate and alternate is provided for this purpose, and will be issued only to one authorized to wear it.

4. Councilors.—An official badge is provided for all officers and members of the Council.

Membership Cards.—Every member in good standing in the California Medical Association has been issued an official membership card for 1931. Membership cards must be shown at the registration desk.

Suggestions and Constructive Criticism.—The officers and committees have tried to do everything possible to make the session a success. Suggestions and constructive criticism calculated to make future sessions more useful will be welcomed by any of the officers. Complaints of whatever character should be promptly made to the registration desk, where they will receive attention.

Social Program.—The social program is in the hands of the Arrangements Committee, and is published at the end of this program.

Press Representatives.—Accredited press representatives are welcome, and they will be accorded every possible courtesy.

Publicity.—All publicity is in the hands of a Publicity Committee. It is requested that all persons having matter of "news" value report it to this committee. It is particularly requested that all "news" about any phase of the convention be given out through the official committee, and in no other way.

Exhibits.—Only advertisers in California and Western Medicine are permitted to exhibit at the annual session.

CLINICS

SURGICAL CLINICS—TUESDAY, APRIL 28, 1931

9 A. M. to 12 M.

University of California Hospital
Third and Parnassus Avenues

Symposium on Breast Tumors

1. Anatomical considerations with reference to diagnosis and treatment.—J. Saunders, M. D.
2. Clinical diagnosis.—E. I. Bartlett, M. D.
3. Surgical pathology.
   Demonstration of gross and microscopic material.—R. J. Millzner, M. D.
4. Operative treatment.
   Malignant disease.—H. Glenn Bell, M. D.
   Doubtful and benign tumors.—E. I. Bartlett, M. D.
5. The rôle of x-ray in treatment of malignant disease.—R. Stone, M. D.
   The rôle of radium in treatment of malignant disease.—O. Pfleuger, M. D.
6. End results.—Henry H. Searls, M. D.

* * *

Lane and Stanford Hospital
Sacramento and Webster Streets

9:30—Intractable pain of face, mouth, and throat treated by intracranial division of glossopharyngeal and trigeminal nerve.—F. L. Reichert, M. D.

9:50—The Management of Carcinoma of the Prostate.—J. R. Dillon, M. D.

10:10—Congenital Dislocation of the Hip and Legg's Disease.—L. W. Ely, M. D.

10:30—Cardiospasm and Its Relief. Presentation of case.—G. W. Nagel, M. D.

10:50—The treatment of chronic empyema and empyema complicating lung abscess.—E. Holman, M. D.

11:10—Unusual lesions of the cauda equina causing paralysis relieved by operation—Presentation of case.—E. B. Towne, M. D.

11:30—The Hitch operation for strabismus—Motion-picture demonstration of new procedure and exhibition of cases.—Hans Barkan, M. D.

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San Francisco Hospital
Twenty-Second Street and Potrero Avenue

UNIVERSITY OF CALIFORNIA SERVICE

1. Fractures of the skull.—Howard C. Naffziger, M. D.
2. Fractures of vertebral bodies.—Ralph Soto-Hall, M. D.
3. Neurological aspects of fractures of vertebral bodies.—Howard Fleming, M. D.
4. Fractures of head of radius.—W. A. Key, M. D.
5. Treatment of Colles' fracture.—F. C. Linde, M. D.
6. Manipulation and skeletal traction in malunited fractures of femur.—Leroy C. Abbott, M. D.
7. Ambulatory treatment in fractures of both bones of the leg.—H. C. Pitkin, M. D.
8. Treatment of compound fractures.—George C. Hensel, M. D.
9. Treatment of ununited fractures—A discussion of bone repair.—K. O. Haldeman, M. D.

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San Francisco Hospital
Twenty-Second Street and Potrero Avenue

STANFORD SERVICE

Emergency Surgery:

1. Anesthesia in emergency surgery.—J. Cline, M. D.
2. Perforated peptic ulcer—Intestinal obstruction.—E. Butler, M. D.
3. Rupture ectopic pregnancy.—L. Emge, M. D.
4. Appendicitis.—R. L. Chandler, M. D.
5. Empyema.—L. Eloesser, M. D.
6. Suppurative arthritis.—N. J. Howard, M. D.

SURGICAL CLINICS—WEDNESDAY, APRIL 29, 1931

9 A. M. to 12 M.

University of California Hospital
Third and Parnassus Avenues

1. Thyroid clinic.—Wallace I. Terry, M. D., and Henry H. Searls, M. D.
2. Neurosurgical clinic.—Howard C. Naffziger, M. D., and O. W. Jones, Jr., M. D.
3. Cholelithiasis.—Stanley Mentzer, M. D.

* * *

Stanford Hospital
Sacramento and Webster Streets

9:30—Failure in the injection treatment of varicose veins with suggestions for their prevention.—N. J. Howard, M. D.

9:50—Recurring thyroglossal duct cysts and their treatment.—P. K. Gilman, M. D.

10:15—Blood Transfusions (Brooks Method). Presentation of case.—LeRoy Brooks, M. D.

10:40—Sympathetic ramisection for peripheral vascular disease.—F. L. Reichert, M. D.

11:10—Endo-aneurysmorrhaphy for varicose aneurysm.—E. Holman, M. D.

11:30—Osteochondromatosis of knee joint—Mediastinitis following dilitation of the stricture of the esophagus.—Emmet Rixford, M. D.

San Francisco Hospital
Twenty-Second Street and Potrero Avenue

UNIVERSITY OF CALIFORNIA SERVICE

1. Acute abdomen.—G. K. Rhodes, M. D.
2. Postoperative obstruction.—Harold Brunn, M. D.
3. Some questionable emergencies in children's surgery.—C. L. Callender, M. D.
4. Motion picture—Pulmonary embolectomy.—A. L. Brown, M. D.
5. Acute gall bladder.—Stanley Mentzer, M. D.
6. Abdominal injuries.—Selling Brill, M. D.
7. Urological emergencies.—S. Olsen, M. D.
8. Extra-uterine pregnancy.—Margaret Schulze, M. D.

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San Francisco Hospital
Twenty-Second Street and Potrero Avenue

STANFORD SERVICE

Traumatic Surgery:

1. Head injuries.—E. J. Morrissey, M. D.
2. Cut throat and chest injuries.—L. Eloesser, M. D.
3. Anesthesia in fractures.—J. M. Meherin, M. D.
4. Fracture dislocation of cervical spine.—E. B. Towne, M. D.
5. Abdominal injuries.—E. Butler, M. D.
6. Gas gangrene and amputation.—L. Eloesser, M. D.
7. Unpadded plaster of paris splints.—P. O'Hara, M. D.

MEDICAL CLINICS—TUESDAY, APRIL 28, 1931

9 A. M. to 12 M.

University of California Medical School
Third and Parnassus Avenues

1. Clinic on Hodgkin's disease.—E. M. Falconer, M. D.
2. Three cases of myxedema in women.—Hans Lisser, M. D.
3. The clinical course of pulmonary tuberculosis.—S. J. Shipman, M. D.
4. Clinic on muscular dystrophy.—Milton B. Lennon, M. D.

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San Francisco Hospital
Twenty-Second Street and Potrero Avenue
STANFORD SERVICE

1. Amphitheater clinics.

San Francisco Hospital
Twenty-Second Street and Potrero Avenue
UNIVERSITY OF CALIFORNIA SERVICE

1. Ward rounds.—Leroy H. Briggs, M. D., Gordon E. Hein, M. D., Raymond J. Reitzel, M. D., and Esther Rosencrantz, M. D.

* * *

Stanford University Medical School
2389 Sacramento Street

1. Diagnosis and treatment of diseases of heart and kidney.—Thomas Addis, M. D., William Dock, M. D., J. K. Lewis, M. D., and staff.

MEDICAL CLINICS—WEDNESDAY, APRIL 29, 1931

9 A. M. to 12 M.

University of California Medical School
Third and Parnassus Avenues

1. Quinidin therapy in cardiac irregularities.—W. B. Kerr, M. D.
2. Adequate treatment of anemia.—S. R. Mettier, M. D.
3. Treatment of diabetes mellitus.—H. Claire Shephardson, M. D.
4. Demonstration of patients with peptic ulcer—Remarks on treatment, surgical indications, relation to malignancy.—Fred H. Kruse, M. D.

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San Francisco Hospital
Twenty-Second Street and Potrero Avenue
UNIVERSITY OF CALIFORNIA SERVICE

1. Amphitheater clinics.

San Francisco Hospital
Twenty-Second Street and Potrero Avenue
STANFORD SERVICE

1. Ward rounds.—Harold P. Hill, M. D., and staff.

* * *

Stanford University Medical School
2398 Sacramento Street

1. Diagnosis and treatment of diseases of gastro-intestinal tract and gall bladder.—Arthur Bloomfield, M. D., Walter W. Boardman, M. D., and staff.

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GENERAL MEETINGS

All General Meetings will be held in the Gold Room

FIRST GENERAL MEETING

Monday, April 27, 11 a. m.

1. *Invocation*—
2. *Address by the President,* Lyell C. Kinney, M. D.
3. *Correction of Losses and Deformities of the External Nose, Including Those Associated with Harelip*—Vilray P. Blair, M. D., Professor of Clinical Surgery, Washington University School of Medicine, St. Louis, Missouri.

SECOND GENERAL MEETING

Tuesday, April 28, 1:30 p. m.

1. *Control of Poliomyelitis From the Point of View of Its Epidemiology*—William Lloyd Aycock, M. D., Department of Preventive Medicine and Hygiene, Harvard University Medical School, Boston, Massachusetts.
2. *Parenchymal and Vascular Disturbances of Kidney Function*—Jean Oliver, M. D., Department of Pathology, Long Island College of Medicine, Brooklyn, New York.

THIRD GENERAL MEETING

Wednesday, April 29, 1:30 p. m.

1. *Circulatory Changes During Spinal Anesthesia*—Ralph Milton Waters, M. D., Associate Professor of Surgery, University of Wisconsin Medical School, Madison, Wisconsin.
2. *Nephritis and Nephrosis*—Elexious Thompson Bell, M. D., Professor of Pathology, University of Minnesota Medical School, Minneapolis, Minnesota.

FOURTH GENERAL MEETING

Thursday, April 30, 11:30 a. m.

MEDICAL ECONOMICS

1. *Address by Chairman*—John H. Graves, M. D., San Francisco.
2. *Some Economic Aspects of Modern Medicine*—Daniel Crosby, M. D., Oakland.
3. *An American Institution Incorporates Social Insurance Medicine*—Rexwald Brown, M. D., Santa Barbara. Discussion opened by Rodney Yoell, M. D., San Francisco.

SECTION PROGRAMS

See Section Index Below

Rules Regarding Papers and Discussions at the State Meeting:

Upon recommendation of the Executive Committee, the following rules regarding papers have been adopted by the Council:

1. All papers read before a section of an annual session are the property of Califorina and Western Medicine.

2. The maximum time that may be consumed by any paper is fifteen minutes, provided that not to exceed ten minutes' latitude may be allowed invited guests at the discretion of the presiding chairman.

3. The maximum time permitted any individual to discuss a paper is four minutes. This also applies to the author in closing his discussion. No speaker may discuss more than once any one subject. The presiding officer of each section is expected to enforce these rules.

4. A copy of each and every paper presented at the state meeting must be in the hands of the chairman or secretary of the section or in the hands of the general secretary before the paper is presented.

5. All papers read at an annual session of the California Medical Association automatically become the property of the Association (By-Laws, Chapter VI, Section 4). The Committee on Publications of the official publication, California and Western Medicine, decides whether or not the paper submitted is of such nature as to be published in full in California and Western Medicine or in abstract form. (In case the latter procedure is followed, the expense of setting up the type for reprints shall be borne by the Association.) It is also the ruling that when any section has a larger number of papers on its program than can be covered in a two-day session, that not more than the average number of papers from such section shall be printed, unless for special reasons.

6. Articles are accepted for place on the program on condition that they are also contributed **solely** to California and Western Medicine. Authors desiring to publish their papers elsewhere than in the journal must make written request to the state secretary.

7. No paper will be accepted by the General Program Committee nor by Section Program Committees unless accompanied by a synopsis of not to exceed fifty words.

8. Papers shall not be "read by title."

9. No member may present more than one paper at any annual session, provided that a member may be a collaborator on more than one paper, if these papers are presented by different authors.

10. Failure on the part of an author to present a paper precludes acceptance of future papers from such author for a period of two years, unless the author explains to the satisfaction of the Executive Committee his inability to fulfill his obligation.

Business Meetings of Sections

Time of business meetings and elections of officers of sections will be scheduled on section blackboards by section secretaries, and through preliminary announcements by section chairmen.

Section Index to This Program

(Sections are arranged alphabetically)

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I

ANESTHESIOLOGY SECTION

William W. Hutchinson, M. D., *Chairman*
1202 Wilshire Medical Building
1930 Wilshire Boulevard, Los Angeles

Mary E. Botsford, M. D., *Secretary*
807 Francisco Street, San Francisco

First Meeting—Gold Room
Joint Meeting of General Surgery and Anesthesiology Sections

Tuesday, April 28, 2:30 to 5 p. m.

1. *Carbon Dioxid Absorption in Anesthesia*—Ralph M. Watters, M. D., University of Wisconsin, Madison. (By invitation.)

   Description and illustration (slides) of a technique for its accomplishment. Ten years' experience with the method. Disturbed physiology through loss of heat and moisture prevented by this method. Control of anesthesia and oxygen supply simplified, made safer, and less expensive. Application in oxygen adminsitration accompanying block, rectal, and other techniques.

2. *Preoperative Medication—Clinical Results at Stanford University Hospital*—Caroline B. Palmer, M. D., 2401 Sacramento Street, San Francisco.

   Consideration of each of three objects of preliminary medication, viz., to prevent psychic shock; to improve the course of anesthesia; and to better the postoperative condition of the patient. Methods employed at Stanford University Hospital. General clinical results. Charts, statistics and lantern slides.

3. *The Significance of Oxygen Want in Anesthesia*—Chauncey D. Leake, Ph. D., University of California Hospital, San Francisco. (By invitation.)

   Physiological factors in oxygen want: physiological effects of oxygen want. Respiratory gaseous exchange in anesthesia. Symptoms, prophylaxis and relief of anoxemia. Evidence of reduced intracellular oxidation in anesthesia; prophylaxis and treatment.

4. *Modern Concepts of Spinal Anesthesia*—Franklin I. Harris, M. D., 916 Four Fifty Sutter Street, San Francisco.

   A brief historical review to illustrate the development of the principles of controllable spinal anesthesia. Height of anesthesia controlled by volume of spinal fluid. Duration by dosage of novocain. The value of ephedrin in this form of anesthesia disagrees with the views expressed by other writers as to its danger; contraindications to the use of this form of anesthesia, and discussion of fatalities.

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Second Meeting—Green Room

Wednesday, April 29, 2:30 to 5 p. m.

1. *Chairman's Address—Anesthesia as a Medical Specialty*—William W. Hutchinson, M. D., Los Angeles.

2. *Effects of Posture During Anesthesia*—Adena C. Dutton, M. D., 1955 Broadway, San Francisco.

   A detailed consideration of the operative positions in common use. Certain positions that may be modified to increase relaxation and add to the patient's comfort. Certain positions that necessarily add difficulties. Methods of overcoming these as far as is possible. Dangers of changes of posture. (Lantern slides.)

3. *Records of Anesthesia for Brain Surgery Covering Ten Years*—Dorothy A. Wood, M. D., 1390 Seventh Avenue, San Francisco.

   Preoperative preparation. Technique of administration. The management of the anesthesia. Types of operations performed. Emergency measures used. Postoperative complications.

4. *A Comparison of Methods of Resuscitation of the New-Born*—Ethel Righetti, M. D., 319 Walnut Street, San Francisco.

   Manual methods of artificial respiration. Hot and cold water immersion. Expansion of lungs by mouth-to-mouth expiration. Alpho-lobelin-carbon dioxid oxygen Drinker respirator. Treatment of atelectasis.

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II

DERMATOLOGY AND SYPHILOLOGY SECTION

Hiram E. Miller, M. D., *Chairman*
803 Fitzhugh Building, 384 Post Street
San Francisco

Charles R. Caskey, M. D., *Vice-Chairman*
715 Wilshire Medical Building
1930 Wilshire Boulevard
Los Angeles

Norman N. Epstein, M. D., *Secretary*
1304 Four Fifty Sutter Street
San Francisco

Merlin T. Maynard, M. D.
Chairman, Section Program Committee
408 Medico-Dental Building, San Jose

First Meeting—Tapestry Room
Monday, April 27, 2:30 to 5 p. m.

1. *Chairman's Address*—Hiram E. Miller, M. D., San Francisco.

2. *Trichophytid as a Clinical Conception*—Moses Scholtz, M. D., 715 Wilshire Medical Building, 1930 Wilshire Boulevard, Los Angeles.

   Concept of trichophytid must be checked up by: (1) immunologic; (2) bacteriologic; (3) morphologic; and (4) clinical findings. Clinical significance of trichophytids. Trichophytids versus other ids, such as tuberculids, leukemids, syphilids, etc. Pathogenesis of trichophytid. Clinical diagnosis of tinea versus laboratory. Analysis of a personal series of cases.

   Discussion opened by Samuel Ayres, Jr., M. D., Los Angeles.

3. *Keratosis Blennorrhagica*—George F. Koetter, M. D., 812 Medical Office Building, 1136 West Sixth Street, Los Angeles, and Stanley O. Chambers, M. D., 1260 Roosevelt Building, 727 West Seventh Street, Los Angeles.

   A complete study of this disease. Three avenues of investigative approach; the relation of the disease to gonorrhea; a study of the histogenesis; the observation and demonstration of mucous membrane lesions and the demonstration of cutaneous sensitivity. Four separate showers of cutaneous and mucous membrane lesions were observed which permitted thorough investigation.

   Discussion opened by Howard Morrow, M. D., San Francisco.

4. *Infectious Granulomata*—H. P. Jacobson, M. D., Westlake Professional Building, 2007 Wilshire Boulevard, Los Angeles.

   The infectious granulomata frequently constitute confusing diagnostic problems, clinically as well as from the standpoint of the laboratory. Contrary to textbook teachings, their mycological or bacteriological diagnoses frequently present laboratory difficulties, the solution of which require perseverance, patience, and training. Therapeutically a great many of these cases lend themselves successfully to proper treatment if the diagnosis is established early.

   Discussion opened by H. C. L. Lindsay, M. D., Pasadena.

5. *The Patch Test*—John M. Graves, M. D., 430 Medical Building, 909 Hyde Street, San Francisco.

   What the patch test is; its application in dermatologic diagnosis; clinical criteria; case reports.

   Discussion opened by N. N. Epstein, M. D., San Francisco.

6. *Colored Moving Picture Demonstration of Dermatologic Cases*—C. Ray Lounsberry, M. D., 1111 Medico-Dental Building, 233 A Street, San Diego.

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Second Meeting—Tapestry Room
Tuesday, April 28, 2:30 to 5 p. m.

1. *Triethanolamin as Adjunct to Dermatological Therapy*—Merlin T. R. Maynard, M. D., 407 Medico-Dental Building, San Jose.

   Very little advantage of the immense field of organic chemicals has been taken by dermatologists in seeking to increase penetration of ointments through lowering surface tension. Triethanolamin was used; it was found that it reacted both favorably and unfavorably with other chemicals, and some useful combinations were evolved.

   Discussion opened by H. E. Alderson, M. D., San Francisco.

2. *Persistent Nodules in Scabies—Histologic Studies and Treatment*—Samuel Ayers, Jr., M. D., and Nelson P. Anderson, M. D., 315 Westlake Professional Building, Los Angeles.

   Three cases of scabies are reported in which inflammatory nodules, especially on the genitals, abdomen and buttocks, persisted in spite of adequate, and even repeated, antiparasitic treatment. Histologic studies, photographs, and photomicrographs are presented, together with suggestions for the treatment of this atypical manifestation of scabies. (Lantern slides.)

   Discussion opened by Douglas W. Montgomery, M. D., San Francisco.

3. *The Treatment of Vitiligo*—H. C. L. Lindsay, M. D., 54 North Madison Avenue, Pasadena.

   Vitiligo treatment must be directed at the cause; fungus cases, specific cases, lichen cases, psoriatic cases are easier to cure than allergic cases. Cases definitely due to sunlight do not all respond to gold sodium thiosulphate therapy. Nearly all cases can be relatively improved by some method. Toxicity of gold does not debar its use in leukoderma.

   Discussion by Samuel Ayers, M. D., Los Angeles, and H. J. Templeton, M. D., Oakland.

4. *Favus in California*—Stuart C. Way, M. D., 320 Medico-Dental Building, 490 Post Street, San Francisco.

   A case report with photographs of the skin lesions and microphotographs of the fungus.

   Discussion opened by Harry E. Alderson, M. D., San Francisco.

5. *Eczema Solare Associated with Hematoporphyrinuria*—H. J. Templeton, M. D., and C. J. Lunsford, M. D., 3115 Webster Street, Oakland.

   A study of two patients who presented eczema as a result of light sensitization associated with hematoporophyrinuria. Also a study of normal controls and of nonlight sensitive patients in whom hematoporphyrinuria was produced by ultra-violet light irradiation.

   Discussion opened by Nelson P. Anderson, M. D., Los Angeles.

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Special Notice to Section Members

Demonstration of selected dermatological and syphilis cases at the skin and syphilis clinic, Stanford University Medical School (corner Sacramento and Clay streets, opposite Lane Medical Library). By Harry E. Alderson, M. D., Stuart C. Way, M. D., and Merlin T. Maynard, M. D.

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III

EYE, EAR, NOSE, AND THROAT SECTION

Andrew B. Wessels, M. D., *Chairman*
1305 Medico-Dental Building
233 A Street, San Diego

Isaac H. Jones, M. D., *Vice-Chairman*
1414 Wilshire Medical Building
1930 Wilshire Boulevard, Los Angeles

Frederick C. Cordes, M. D., *Secretary*
817 Fitzhugh Building, 384 Post Street
San Francisco

First Meeting—Little Theater
Wednesday, April 29, 2:30 to 5 p. m.

Symposium on the Eighth Nerve

1. *Anatomy of the Eighth Nerve*—J. B. Saunders, M. D., Department of Anatomy, University of California, Berkeley. (By invitation.)
2. *The Rôle of Labyrinthine Reflexes in Postural Tonus and Locomotion in the Experimental Animal*—Joseph C. Hinsey, Ph. D., Department of Anatomy, Stanford University. (By invitation.)

   Locomotion in the experimental animal (cat) has been shown to consist of at least three components: (1) postural tonus; (2) rhythmicity; and (3) equilibration. The vestibular mechanism is involved in postural tonus and equilibration. A consideration of the anatomical pathways for these two components will be made in the light of some of the recent investigations upon the subject.
3. *Pathology of the Eighth Nerve*—Robert C. Martin, M. D., 620 Fitzhugh Building, 384 Post Street, San Francisco.
4. *Surgery of the Eighth Nerve*—George H. Patterson, M. D., 402 Professional Building, 1052 West Sixth Street, Los Angeles.

   Historical review, pointing out how the tumors arising from the eighth nerve can be differentiated from others within this region. Histology. Symptomatology and diagnosis. Pathologic anatomy. Surgical procedures for the removal of tumors of the eighth nerve. Operative results, including case reports of the methods employed by various operators.
5. *The Optic Nerve and the Auditory Nerve, Their Analogies and Differences, with Preliminary Conceptions of the "Choked Labyrinth"*—Clifford B. Walker, M. D., 410 Auditorium Building, 427 West Fifth Street, Los Angeles.

   One finds repeatedly in ophthalmologic, otologic, and neurologic literature references to certain various analogies between the second and eighth nerves which are helpful in analyzing many problems. Therefore, for the first time, an attempt is made to collect some of these analogies—at least those referring to the pressure phenomena of glaucoma and brain tumor.

   Discussion of symposium to be opened by Howard Naffziger, M. D., San Francisco and Isaac H. Jones, M. D., Los Angeles.

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Notice: A demonstration of oral teaching to the deaf children will be held at the Gough School, Washington Street, between Franklin and Gough streets, on Wednesday, April 29, from 10 to 11:30 a. m. (See full notice at end of second meeting.)

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Second Meeting—Little Theater
Thursday, April 30, 9 to 11:30 a. m.

Clinical Symposium on the Optic Nerve

1. *Recent Advances in Pharmacology Relating to the Eye*—Chauncey D. Leake, Ph.D., Department of Pharmacology, University of California Medical School, San Francisco.

   Sensitivity of highly specialized tissue to alterations in chemical environment. Drugs used for various purposes which may interfere with vision; by tissue injury; by physiological action. Development of chemicals for use in ophthalmology: local anesthetics; "sympathomimetic amines"; mydriatics and miotics; antiseptics.
2. *Rhinological Aspects of Retrobulbar Neuritis*—Harold A. Fletcher, M. D., 1417 Medico-Dental Building, 490 Post Street, San Francisco.

   Discussion of anatomic and physiologic relations of the paranasal sinuses to the optic nerve. Based on the present-day understanding of the part the nasal sinuses may play in this disease and the well known fact that the rhinoscopic examination may be negative. The clinical judgment as to whether or not the sinuses should be attacked surgically in a given case must come from the ophthalmologist, who must take the responsibility of ruling out other causes of the neuritis.
3. *Injuries to the Optic Nerves and Visual Tracts*—Howard W. Fleming, M. D., 419 Fitzhugh Building, 384 Post Street, San Francisco.

   Anatomical considerations—injuries to optic nerve complicating foraminal and clinoid fractures—injury to visual tracts, due to penetrating wounds, depressed fractures, hemorrhage, and abscess. Impaired visual acuity and constricted fields, resulting from cerebral concussion. (Lantern slides.)
4. *Clinical Relations of the Anatomy and Pathology of the Optic Nerve*—Morie F. Weymann, M. D., 903 Westlake Professional Building, 2007 Wilshire Boulevard, Los Angeles.

   This paper is limited to a discussion of the intraorbital and intraocular portion of the optic nerve. A review of the microscopic anatomy of the nerve head explains the various appearances of the optic disk as seen with the ophthalmoscope. Sections through the diseased nerve demonstrate the ophthalmoscopic changes produced in papilledema, atrophy, and other conditions.

5. *Optic Nerve Changes in Nontraumatic Neurologic Disorders*—Walter F. Schaller, M. D., 608 Medical Building, 909 Hyde Street, San Francisco.

   Incidence, diagnosis, and prognosis of optic nerve changes in neurologic disorders. Personal experience of the author in a review of case records over a twenty-year period, with special reference to the more common neurologic conditions, such as brain tumor, brain abscess, tabes, multiple sclerosis, and encephalitis.

   Discussion of symposium to be opened by A. Ray Irvine, M. D., Los Angeles.

Special Notices to Section Members

1. Demonstration of Teaching Handicapped Children.

Dr. William C. Hassler, health officer of the city of San Francisco, invites the members of the Eye, Ear, Nose, and Throat Section to attend a demonstration of teaching handicapped children.

A demonstration of oral teaching to the deaf children will be held at the Gough School, Washington Street, between Franklin and Gough streets, on Wednesday, April 29, from 10 to 11:30 a. m.

A demonstration of the work of the sight-saving classes will be held at the Sanchez School, Sanchez and Seventeenth streets, on Thursday, April 30, from 1:30 to 3 p. m.

Transportation to the schools from the Fairmont Hotel and return will be supplied by the Yellow Cab Company.

The fare to the Gough School, one way, is from 45 to 55 cents and to Sanchez School, from 85 to 95 cents. Similar fare return. Five persons can ride for the cost of one.

Those intending to visit the Gough School will kindly sign up at main registration desk. Demonstrations under the supervision of Dr. Frank H. Rodin.

2. Informal Buffet Supper—Wednesday Evening.

An informal buffet supper and Jinks is being arranged for members of the Eye, Ear, Nose, and Throat Section on Wednesday evening, April 29. Postcards will be sent Section members later, giving the exact time and place. In the meantime, please reserve this date.

IV

GENERAL MEDICINE SECTION

Ernest H. Falconer, M. D., *Chairman*
316 Fitzhugh Building, 384 Post Street
San Francisco

Verne R. Mason, M. D., *Secretary*
838 Pacific Mutual Building
523 West Sixth Street, Los Angeles

Walter P. Bliss, M. D.
Chairman, Section Program Committee
407 Professional Building
65 North Madison Avenue, Pasadena

First Meeting—Red Room

Joint Meeting of Pathology and Bacteriology and General Medicine Sections

Monday, April 27, 2:30 to 5 p. m.

1. *Test for Rapid Detection and Titration of Immune Bodies in Poliomyelitis*—Frederick Eberson, M. D., and W. E. Mossman, M. D. (by invitation), Mount Zion Hospital, San Francisco.

   This colloidal gold method detects and measures specific antibodies and protective value in poliomyelitis of human and animal serums. It makes possible the measure of immunity and recognition of the earliest development of antibodies in the course of infection as shown in patients and monkeys. The test is applicable to the study of carriers, contacts, and susceptibility in poliomyelitis and therapeutical value of serums from human and animal sources. Serums from animals that are naturally refractory to poliomyelitis have been found by this test to possess abundant antibodies.

   Discussion opened by W. Lloyd Aycock, M. D., Boston, Massachusetts.

2. *The Kahn Precipitation Test for Syphilis Compared with the Kolmer Modification of the Wassermann Test in Untreated Primary Darkfield Positive Syphilis*—Stanley O. Chambers, M. D., 1260 Roosevelt Building, 727 West Seventh Street, Los Angeles.

   A comparison of the Kolmer modification of the Wassermann reaction and the Kahn precipitation test in early darkfield positive seronegative untreated syphilis. The twenty-five cases observed show an alarming variation in the relation of the positive reaction to time element. Study not offered as conclusive evidence of the desirability of one serologic test over another, but presented as a recitation of observations which warrant further investigation.

   Discussion opened by Newton Evans, M. D., Los Angeles.

3. *Periarteritis Nodosa with Remission of Symptoms*—W. E. R. Schottstaedt, M. D., 1759 Fulton Street, Fresno.

   A brief résumé of the literature of the different types of periarteritis nodosa with their symptomatology. A case with cutaneous symptoms is reported, with biopsy, photomicrographs and symptoms given. The specific treatment given is outlined and the case is arrested.

   Discussion to be opened by Z. E. Bolin, M. D., San Francisco.

4. *Anterior Pituitary Hormone in Urine—A Rapid Method for the Diagnosis of Early Pregnancy*—Morris H. Silverberg, M. D., Union Square building, 350 Post Street, San Francisco.

   Over two hundred cases thus far studied have proved 100 per cent accurate by this method which concentrates the active hormone in urine used for injecting one or two small doses intraperitoneally or subcutaneously into immature female rats. Results are reported within thirty-six hours or sooner from gross and microscopic findings. Uterine and ectopic pregnancies can be differentiated from simulating conditions. Hitherto unreported microscopic findings make possible the diagnosis of dead fetus or other abnormalities arising during gestation. Numerous instances of three to five weeks' pregnancy have been detected readily.

   Discussion opened by Herbert Evans, M. D., Berkeley.

5. *Spontaneous Nephritis in the Rabbit*—F. R. Nuzum, M. D., and Albert H. Elliott, M. D., Cottage Hospital, Santa Barbara.

   Twenty rabbits selected from 250 normal animals because of spontaneous persistent urinary abnormalities were studied over a three-year period from the standpoint of changes in the blood metabolites, phthalein excretion and, particularly blood pressure levels. The effects of a liver diet on the spontaneous nephritis were determined.

   Discussion opened by William Ophüls, M. D., San Francisco.

Second Meeting—Red Room
Tuesday, April 28, 2:30 to 5 p. m.

1. *Cardiovascular Tests in the Adolescent Girl—An Index of Cardiac and Physical Efficiency*—Katherine M. Close, M. D., 600 Professional Building, 1052 West Sixth Street, Los Angeles.

   The cardiovascular response to exercise in 375 girls. Reactions which constitute a normal response. Abnormal responses and their relation to definite pathology. (Charts.)

   Discussion opened by John C. Ruddock, M. D., Los Angeles.

2. *Etiology and Treatment of Chronic Bronchiectasis*—J. Dwight Davis, M. D., 802 Wilshire Medical Building, 1930 Wilshire Boulevard, Los Angeles.

   Finding of an organism in the bronchial mucosa, by bronchoscopic examination, and its isolation in pure culture. Medical treatment and the results obtained to date is reviewed, and compared with vaccine treatment by this particular organism, isolated.

   Discussion opened by Harold Brunn, M. D., San Francisco.

3. *Testicular Substance Implantations*—L. L. Stanley, M. D., State Prison, San Quentin.

   For past eleven years, effects of implanting fresh ground-up testicular substance from animal into man have been observed at California state prison at San Quentin. Noticeable dynamic effects, as well as improvement of the general health of the recipients have been observed. About five thousand implantations have been done.

   Discussion opened by Hans Lisser, M. D., San Francisco.

4. *Recent Successes in the Medical Treatment of Tic Douloureux*—Mark A. Glaser, M. D., 1118 Roosevelt Building, 727 West Seventh Street, Los Angeles.

   In 1916, trichlorethylen was suggested as a therapeutic measure for tic douloureux. Since its introduction, 177 cases have been reported in the literature with varied percentages of successes; fifteen of these cases from the personal experience of the author are herein reported. A résumé of the literature will be considered with a statistical study of cures. Medical treatment offers distinct advantage over surgery. Should the medical treatment fail, surgery will afford 100 per cent relief of pain with the remarkably low mortality of only 37 per cent.

   Discussion by Carl W. Rand, M. D., Los Angeles, and Howard Naffziger, M. D., San Francisco.

5. *Intragastric Photography and Its Clinical Application*—Felix Cunha, M. D., Four Fifty Sutter Street, San Francisco. (Motion picture.)

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Third Meeting—Red Room
Joint Meeting of General Medicine and Pathology and Bacteriology Sections
Wednesday, April 29, 2:30 to 5 p. m.

The program of this joint meeting is printed under the third meeting of the Pathology and Bacteriology Section. See page 304.

Fourth Meeting—Red Room
Thursday, April 30, 9 to 11:30 a. m.

1. *An Evaluation of Quinidin Therapy in Auricular Fibrillation—Its Use Over a Six-Year Period*—Harry Spiro, M. D., and William W. Newman, M. D., 601 Flood Building, 870 Market Street, San Francisco.

   A follow-up on sixty-six cases in private practice with an attempt to determine if the use of quinidin in the treatment of auricular fibrillation is really worth while.

   Discussion opened by William J. Kerr, M. D., San Francisco.

2. *Acute Idiopathic Hematoporphyrinuria — Report of Three Cases*—Eugene Ziskind, M. D., 718 Professional Building, 1052 West Sixth Street, Los Angeles.

   A report of three cases of acute idiopathic hematoporphyrinuria confirmed by spectroscopic examination. Necropsy in each case. General discussion.

   Discussion opened by Herbert C. Moffitt, M. D., San Francisco.

3. *Amebiasis—Case Comparing Various Amebacides*—Hamilton H. Anderson, M. D. (by invitation), and Alfred C. Reed, M. D., University of California Hospital, San Francisco.

   Difficulties encountered with various drugs proposed for treatment of amebiasis. In this case full courses of "Kurchi alkaloids," "auremetine," emetin hydrochlorid, acetarson, and chiniofon were used without effect. Following 12 grams of "carbarsone" (a new organic arsenical) in divided oral doses, the patient has been symptom-free and negative for *E. histolytica* for three months.

4. *Some Cardiac Arrhythmias Associated with Coronary Artery Occlusions*—William H. Leake, M. D., 216 Wilshire Medical Building, 1930 Wilshire Boulevard, Los Angeles.

   Seventeen cases of coronary thrombosis are discussed. An electrocardiogram was obtained in each case within a relatively short time after the occlusion. All of these patients died and were subjected to necropsy. Abnormal rhythms were observed in eleven of this series; the so-called "Coronary T Wave" was present in the electrocardiograms of a similar number.

5. *Potassium in Certain Cardiac Arrhythmias*—John J. Sampson, M. D., 1530 Medico-Dental Building, 490 Post Street, San Francisco, and Evelyn M. Anderson, M. D., University of California Hospital, San Francisco. (By invitation.)

   Potassium salt administration by mouth is effective in checking auricular and ventricular ectopic beats and tachycardia in the majority of cases of organic heart disease. The failure to affect arrhythmias in patients without other evidence of cardiac pathology may be used to differentiate this group from the former. Potassium administration does not prevent the occurrence of auricular fibrillation.

   Discussion opened by William Dock, M. D., San Francisco.

6. *Enlargement of the Left Auricle to the Right—Its Clinical Significance*—John C. Ruddock, M. D., 909 Wilshire Medical Building, 1930 Wilshire Boulevard, Los Angeles.

   Review of literature and hospital records with report of cases and an example of extreme case, with clinical history, physical signs, roentgen-ray pictures, and autopsy findings. A discussion of clinical significance in regard to proper interpretation of roentgen-ray heart films in compensated and decompensated cases of mitral stenosis. (Lantern slides.)

V

GENERAL SURGERY SECTION

Lemuel P. Adams, M. D., *Chairman*
Strad Building, 230 Grand Avenue, Oakland

Clarence E. Rees, M. D., *Secretary*
2001 Fourth Street, San Diego

Stanley H. Mentzer, M. D., *Assistant Secretary*
1009 Four Fifty Sutter Street, San Francisco

First Meeting—Terrace Room
Monday, April 27, 1:30 to 5 p. m.

1. *Unusual Case of Nonunion of Tibia*—Alfred Edward Gallant, M. D., 1033 Roosevelt Building, 727 West Seventh Street, Los Angeles.

   Report of a case of delayed union of tibia, which had been operated upon eight times in seven years with persistence of nonunion; the probable causes of nonunion in this instance discussed. Union finally established; method. Excision of a portion of the fibula, and weight bearing afterward, accomplished this result. (Lantern slides.)

   Discussion by Leo Eloesser, M. D., San Francisco, and Rodney Atsatt, M. D., Santa Barbara.

2. *Fractures of the Os Calcis*—Maynard C. Harding, M. D., 700 Electric Building, 861 Sixth Street, San Diego.

   These constitute about one per cent of all fractures. Classification given. Seriousness of smash fractures. Causes of disability. Pathology. X-ray diagnosis. Methods of treatment. Results.

   Discussion by Frazer L. Macpherson, M. D., San Diego.

3. *Treatment of Abscesses in Pott's Disease of the Spine*—Leo Eloesser, M. D., 1224 Medico-Dental Building, 490 Post Street, San Francisco.

   Diagnosis and effects of abscess formation in Pott's disease are discussed. Treatment by incision and rib resection in high abscesses; by a lumbar incision in low abscesses, followed by evacuation of pus; removal of tuberculous sequestra and closure of the wound is described. Presentation of patients.

   Discussion by John C. Wilson, M. D., Los Angeles, and LeRoy Abbott, M. D., San Francisco.

4. *Penetrating Wounds of the Chest*—Howard W. Stephens, M. D., and S. Cohn, M. D. (by invitation), Fitzhugh Building, 384 Post Street, San Francisco.

   The physiology of the thorax is generally considered; the resultant disturbances from open pneumothorax and hemothorax are described and explained. Hemothorax is further discussed rather completely. The indications for operation and the treatment of penetrating injuries are given. The paper is concluded by a study of the cases at the San Francisco Hospital during the past ten years. Conclusions are drawn and comparisons with others given.

   Discussion by Frank S. Dolley, M. D., Los Angeles.

5. *The Treatment of Chronic Nontuberculous Empyema*—Charles D. Lockwood, M. D., 295 Markham Place, Pasadena.

   The problem of chronic empyema presents many difficulties. There is no standardized procedure. It is possible to secure healing in all nontuberculous cases. Every patient must be studied individually before attempting surgical treatment. Most individuals suffering from long-standing infection have damaged kidneys and low resistance. Diagnostic procedure: Preparation of patient. Surgical operations necessary for cure. (Lantern slides.)

   Discussion by Charles M. Fox, M. D., San Diego, and W. C. Chidester, M. D., San Mateo.

6. *Lengthening of the Tibia and Fibula*—LeRoy C. Abbott, M. D., 2000 Van Ness Avenue, San Francisco.

   Author's method for operative lengthening of tibia and fibula. The procedure has been employed in children where a major amount of shortening caused by infantile paralysis and diseases of the hip or knee has led to serious disability. (Motion picture film.)

   Discussion by John Wilson, M. D., Los Angeles, and George Sanderson, M. D., Stockton.

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Second Meeting—Gold Room
Joint Meeting of General Surgery and Anesthesiology Sections
Tuesday, April 28, 2:30 to 5 p. m.

The program of this joint meeting is printed under the first meeting of the Anesthesiology Section. See page 295.

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Third Meeting—Terrace Room
Wednesday, April 29, 2:30 to 5 p. m.

1. *Acute Surgical Conditions Encountered in the San Francisco Emergency Hospital Service During a Ten-Year Period*—Edmund Butler, M. D., 615 Medico-Dental Building, 490 Post Street, San Francisco.

   The number and classification of patients admitted. Anesthesia: local, spinal, general inhalation. Pathology encountered. Complications following operation. Errors in diagnosis. Mortality report.

2. *Group Treatment of Chronic Polyarthritis*—Rea Smith, M. D., 1215 Wilshire Medical Building, 1930 Wilshire Boulevard, Los Angeles.

   Our conception of the etiology of polyarthritis being metabolic—due to disturbance of colon digestion—due to unbalanced flora, dependent upon lack of cecal function and stasis. No one system of treatment cures on account of the many elements involved, necessitating routine combination of radiology, laboratory, abdominal surgery, medical treatment, diet, and physiotherapy followed by expert orthopedic procedure to restore function to crippled joints after the active process has subsided.

   Discussion by James T. Watkins, M. D., San Francisco, and Ernest C. Fishbaugh, M. D., Los Angeles.

3. *Why the Success or Failure of Free Skin Grafts*—J. Homer Woolsey, M. D., 907 Medico-Dental Building, 490 Post Street, San Francisco.

   The successful transplantation of skin depends upon the establishment of an adequate blood supply. Measures to insure this are: proper cutting atraumatic technique, and the employment of a proper type of dressing.

   Discussion by William Kiskadden, M. D., Los Angeles, and John H. Breyer, M. D., Pasadena.

4. *The Management of Depressed Fractures of the Skull with Dural Injury*—Howard C. Naffziger, M. D., University of California Hospital, San Francisco.

   The pathologic changes in the brain are due to immediate injury rather than to the continuing depression of the bone. With dural injury brain damage usually occurs. Procedures to minimize the formation of scar are necessary.

A dural opening, whether caused by a tear from injury or made intentionally by the surgeon, needs careful repair to prevent brain protrusion, fungus formation, and scar. Convulsive states often follow incorrect management.

Discussion by Rexwald Brown, M. D., Santa Barbara.

5. *Technique of Abdominal Section Without Postoperative Pain or Adhesions*—James F. Percy, M. D., 1030 South Alvarado Street, Los Angeles.

The principal cause of postoperative pain and adhesions following abdominal section is trauma to the peritoneal endothelial cells. The paper describes a very simple technique for avoiding this. In addition, emphasis is made as to the proper placing of a long, dry abdominal sponge for the restoration of the function of the diaphragm which is always put out of commission the instant the abdomen is opened.

Discussion by Burns Chaffee, M. D., Long Beach.

Fourth Meeting—Terrace Room

Thursday, April 30, 9 to 11:30 a. m.

1. *Cardiospasm*—John Hunt Shephard, M. D., 608 Medico-Dental Building, San Jose.

Cardiospasm, frequently spoken of as idiopathic dilatation of the esophagus, was first described in 1874. Though its symptoms are often pathognomonic, it is frequently overlooked. Probably over two hundred unrecognized cases in California today. Medical treatment is unsuccessful; gastrostomy is rarely indicated. Hydrostatic dilatation is very successful.

Discussion by Gunther Nagel, M. D., San Francisco, and Frederick A. Speik, M. D., Los Angeles.

2. *Partial Gastric Resection*—E. Eric Larson, M. D., 310 Wilshire Medical Building, 1930 Wilshire Boulevard, Los Angeles.

The surgical treatment of gastric and duodenal ulcer is controversial. When gastric resection must be resorted to, the decision must rest with the well-trained surgeon when the lesion is seen at operation. The types of lesions requiring resection, the method of operation, and the after-care of the patient are discussed. (Lantern slides.)

Discussion by C. G. Toland, M. D., Los Angeles; C. T. Sturgeon, M. D., Los Angeles; and John C. Ruddock, M. D., Los Angeles.

3. *Cause of Inguinal Hernia*—Philip H. Stephens, M. D., 103 Medical Office Building, 1136 West Sixth Street, Los Angeles.

Our excuse for presenting a rather hackneyed subject is: The growing importance from a lay and medico-legal standpoint. The history, anatomical and embryological, along with mechanical force and posture incident to production. The evaluation of the rôle of trauma in production. The importance and clear understanding as to the nature of certain types of trauma, the history and circumstances surrounding the beginning and development.

Discussion by Gunther Nagel, M. D., San Francisco, and Wallace Roblee, M. D., Riverside.

4. *Recent Advances in the Treatment of Goiter*—Carl L. Hoag, M. D., 702 Fitzhugh Building, 384 Post Street, San Francisco.

Classification. Evidence for origin. Prevention of goiter. Diagnosis of borderline and mixed types. Iodin therapy. How does iodin act chemically and pathologically? X-ray and radium therapy. Important points in operative technique. Hypoparathyroidism. Symptom complex-operative precautions. Blood calcium determinations and their importance and significance. Summary.

5. *Goiter — Principles of Treatment* — A. B. Cooke, M. D., 1236 Roosevelt Building, 727 West Seventh Street, Los Angeles.

Individualization of cases. Accuracy of diagnosis. Recognition of fact that goiter is to be considered both a medical and surgical disease. The limitations of nonsurgical treatment. What may be expected from surgical treatment.

6. *Chronic Thyroiditis*—W. Whitfield Crane, M. D., 701 Wakefield Building, Oakland.

Study based on twenty-eight cases at Mayo Clinic. Clinical symptomatology and objective findings as distinguished from the various types of goiter. Gross and microscopic pathologic changes. Importance of the clinical and surgical recognition of thyroiditis because of myxedema following resection of the gland. Cuneiform division of the isthmus the procedure of choice. Operative results. (Lantern slides.)

Discussion by Wallace I. Terry, M. D., San Francisco; Guido Frederick Norman, M. D., Eureka; Joseph K. Swindt, M. D., Pomona; Verne C. Hunt, M. D., Los Angeles; and Schuyler Pulford, M. D., Woodland.

VI

INDUSTRIAL MEDICINE AND SURGERY SECTION

ROBERT W. WILCOX, M. D., *Chairman*
114 East Seventh Street, Long Beach

FRASER L. MACPHERSON, M. D., *Secretary*
610 Medico-Dental Building
233 A Street, San Diego

FLOYD THURBER, M. D.
Chairman, Program Committee
214 Hollywood First National Bank Building
Los Angeles

First Meeting—Green Room

Monday, April 27, 2:30 to 5 p. m.

1. *Treatment of Compression Fractures of the Spine with the Rogers Hyperextension Frame*—Charles B. Fowler, M. D., Franklin Building, 1624 Franklin Street, Oakland.

Object in presenting the paper: types of beds; mechanics of correction; outline of treatment; a few cases treated. (Lantern slides.)

2. *Removal of Semilunar Cartilages from the Knee Joint —Analysis of Late Results*—George J. McChesney, M. D., 2537 Four Fifty Sutter Street, San Francisco.

Discussion of reasons why the late results of removal of semilunar cartilages is unsatisfactory, the arthritis factor especially being important and not given sufficient weight when operation is advised. Discussion also of operative technique.

3. *Management of Fracture of the Mandible*—George C. Hensel, M. D., 2000 Van Ness Avenue, San Francisco.

Statistics of occurrence. Application of dental splints and wiring to control position of fragments. Early and late treatment. Complications due to malposition. Demonstration of intra-oral fixation.

4. *Dislocation of the Astragalus Associated with Fracture of the Cuboid and Fibula Following Simple Injury*—Sylvan Haas, M. D., 1533 Four Fifty Sutter Street, San Francisco.

   A brief review of the literature, the mechanism of its production and the treatment of dislocation of the astragalus will be presented in conjunction with the report of this case.

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Second Meeting—Green Room
Tuesday, April 28, 2:30 to 5 p. m.

1. *Treatment of Hemothorax and Hemopericardium Following Chest Injuries*—Frank S. Dolley, M. D., 1247 Roosevelt Building, 727 West Seventh Street, Los Angeles.

   Detailed discussion of hemothorax following chest injuries both in the consideration of the various causes of blood in the pleural cavity; when it is advisable to aspirate it and when it is not; when an immediate exploration to find the bleeding point is indicated. Under hemopericardium, causes of hemorrhage and recognition of heart tamponade and method of aspiration.

   Discussion opened by Philip Stephens, M. D., Los Angeles.

2. *Use of Small Multiple Bone Grafts for Nonunion of Fractures*—Halbert W. Chappel, M. D., 111 Medical Office Building, 1136 West Sixth Street, Los Angeles.

   Chief causes of nonunion are interference with circulation by crushing injuries, lack of contact of bone-forming elements, improper fixation, poor circulation in region of healing, infection more destructive than stimulating. Rapid repair may be obtained by small multiple bone grafts and blood clot, assisted by friction and mechanical irritation.

3. *Mechanism of the So-called Traumatic Neurosis*—Paul E. Bowers, M. D., 323 Subway Terminal Building, 417 South Hill Street, Los Angeles.

4. *The Healing of Experimental Fractures*—Keene O. Haldeman, M. D., Medico-Dental Building, 490 Post Street, San Francisco.

   Following the production of fractures by operation and by closed manipulation, the healing process was studied by means of frequent x-ray pictures and by microscopic sections at various intervals of time. A special study was made of the rôle of periosteum in bone repair by operations in which periosteum was either stripped away from the line of fracture or interposed between the fragments of the right radius, while the fractured left radius with periosteum undisturbed served as a normal control. The importance of periosteum to union, and its part in the production of nonunion are clearly shown in x-rays and microscopic sections, of which lantern slides have been prepared.

   Discussion by Hugh Jones, M. D., Los Angeles and B. P. Stephens, M. D., Oakland.

5. *Present National Activities in Medical Economics*—J. Rollin French, M. D., 417 Towne Avenue, Los Angeles.

   The present national activities in medical economics have been prompted by a demand for more equitable and universal distribution of medical service. The present activities are directed toward experimenting with ways and means of establishing systems to satisfy the demands of the public, as well as reasonably respecting the major traditions taught by medical ethics.

VII

NEUROPSYCHIATRY SECTION

George G. Hunter, M. D., *Chairman*
910 Pacific Mutual Building
523 West Sixth Street, Los Angeles

Henry G. Mehrtens, M. D., *Secretary*
Stanford University Hospital
San Francisco

First Meeting—Vanderbilt Room
Monday, April 27, 2:30 to 5 p. m.

1. *Chairman's Address*—George G. Hunter, M. D., Los Angeles.

2. *Psychiatry and the Criminal*—Herman Adler, M. D., 2525 Rose Walk, Berkeley.

   An attempt to define psychiatry as a social science. The interests of psychiatry in the problem of social behavior. Behavior disorders as expressions of disturbances of internal and external equilibrium. Is it necessary to regard the criminal as a sick person? Treatment.

3. *California Mental Hygiene Survey*—Glenn E. Myers, M. D., 300 Professional Building, 1052 West Sixth Street, Los Angeles.

   A mental hygiene survey of California was completed last summer by Frederick H. Allen, M. D., and co-workers. The report is not yet in print, or otherwise readily accessible. It is desired to present the substance of the report together with recommendations pertaining to the insane, feeble-minded, delinquents, insanity laws, and related subjects.

4. *A Study of Certain Mental Disorders in Twins*—Aaron J. Rosanoff, M. D., 716 Westlake Professional Building, 2007 Wilshire Boulevard, Los Angeles.

   Cases of mental deficiency, epilepsy, schizophrenic psychoses, etc., occurring in twins (one or both) are being collected for this study. The main purpose is to compare the findings in monozygotic twins with those in dizygotic twins, with a view to determining the relative importance of inborn and environmental factors, respectively.

5. *Business Meeting.*

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Second Meeting—Vanderbilt Room
Wednesday, April 29, 2:30 to 5 p. m.

1. *Abrupt Slowing of Cerebral Circulation*—Thomas G. Inman, M. D., 2000 Van Ness Avenue, San Francisco.

   Abrupt slowing of the cerebral circulation may be responsible for various symptoms usually attributed to a diminution in the quantity of blood within the cerebral vessels. Giddiness, dizziness, and syncope occur in persons with normal vessels, but in the arteriosclerotic, varying degrees of thrombosis may occur with consequent disabling paralyses.

2. *Organic Somatic Disease—Associated with Nervous and Mental Disturbances*—Julian M. Wolfsohn, M. D., 1406 Medico-Dental Building, 490 Post Street, San Francisco.

   Report of two cases of nervous disease, and four cases of insanity, the syndromes of which have been completely relieved by the elimination of organic somatic disease. The cases included one of psychasthenia, one of neurasthenia, and four cases of manic depressive insanity—history and description of each case with procedure followed. Comments.

3. *Spontaneous Intraventricular Hemorrhage—Report of Small Series of Cases*—Samuel D. Ingham, M. D., 1252 Roosevelt Building, 727 West Seventh Street, Los Angeles.

   Clinical picture. Ventricular puncture for diagnosis. Definite but limited value of repeated lumbar puncture. Complete recovery in one patient verified by operation and ventricular puncture.

4. *Craniocerebral Injury—A Study of Twelve Hundred Consecutive Cases*—Carl W. Rand, M. D., 1023 Pacific Mutual Building, 523 West Sixth Street, Los Angeles; and D. H. Werden, M. D., 1100 Mission Road, Los Angeles. (By invitation.)

   The greater incidence of craniocerebral injuries makes the evaluation of clinical signs and symptoms, and the recognition of complications, of paramount import. A series of twelve hundred consecutive cases has been studied, stressing the incidence and neurologic aspects of basal skull fractures, with their frequent and often very serious complications.

VIII

OBSTETRICS AND GYNECOLOGY SECTION

William H. Gilbert, M. D., *Chairman*
305 Medico-Dental Building
746 Francisco Street, Los Angeles

John C. Irwin, M. D., *Secretary*
1709 West Eighth Street, Los Angeles

First Meeting—California Room

Monday, April 27, 2:30 to 5 p. m.

1. *The Narrow Bispinous Diameter—Its Influence on Occiput Posterior Positions*—Samuel Hanson, M. D., 1109 Medico-Dental Building, Stockton.

   The bispinous diameter was accurately measured in a series of cases. The data obtained show that if this diameter is narrow, rotation in occiput posterior positions is seriously obstructed. The practical bearing of this fact on treatment is pointed out.

   Discussion opened by Albert Spalding, M. D., San Francisco.

2. *X-Ray Pelvimetry*—John N. Ewer, M. D., 251 Moss Avenue, Oakland, and Carl B. Bowen, M. D., 202 Franklin Building, 1624 Franklin Street, Oakland.

   There is often a great discrepancy between the size of the pelvis as estimated by external pelvimetry and as determined radiographically. Value of x-ray pelvimetry from observation of labors of patients measured. Technique. Demonstration of some abnormal radiographs.

3. *Cesarean Sections in Private Practice—Report of One Hundred Cases*—Thomas F. Wier, M. D., 911 Medico-Dental Building, 233 A Street, San Diego.

   A short review of sections, comparing mixed, private and clinical cases, institutional cases, private practice cases; the indications and classification for the section; preparation of patient; classifying operation; postoperative care; infant and maternal mortality and morbidity. Comparing end results of obstetrician with the general surgeon.

4. *Menstrual Irregularities and the Ductless Glands*—Clifford A. Wright, M. D., 2417 South Hope Street, Los Angeles.

   Physiology of menstruation; physiology of the different ductless glands in relation to menstruation; irregularities of menstruation from an endocrine standpoint; outline of treatment; illustrative cases. (Lantern slides.)

   Discussion opened by Llewellyn R. Lewis, M. D., Los Angeles.

5. *Talking Movie—Low Cervical Cesarean Section*—Joseph B. De Lee, M. D., Chicago. Presented by Lyle McNeile, M. D., Los Angeles.

Second Meeting—California Room

Wednesday, April 29, 2:30 to 5 p. m.

1. *Chairman's Address—The Cervix as a Factor in Hysterectomy*—William H. Gilbert, M. D., Los Angeles.

   Anatomy and physiology of the cervix. Relation to the perineum in relaxed vaginal outlet. Discussion of cervical pathology and relation to malignant and nonmalignant growths. Relative merits of supracervical and total hysterectomy. Comparison of mortality rate in the two operations.

2. *Visualization of Hydrosalpinx by Means of Uterosalpingography*—Albert Mathieu, M. D., Medical Arts Building, Portland, Oregon. (By invitation.)

   Question regarding existence of hydrops tubae profluens; few cases thought to be such have been reported. Experience has shown that most cases of small hydrosalpinx are found accidentally at operation because these are usually not felt with bimanual examination. Continued experience with uterosalpingography shows hydrosalpinx more common than formerly suspected because probably about 50 per cent of these are open at the proximal end of the tube and hence can be filled with iodized oil. Slides and technique.

3. *Tumors Complicating Pregnancy and Labor*—Frank W. Lynch, M. D., University of California Hospital, San Francisco.

   A review of the fibroids, ovarian tumors, and carcinoma of the cervix. Incidence and frequency of complication in this group. Treatment. Personal experience together with a review of the literature.

   Discussion opened by Lyle G. McNeile, M. D., Los Angeles.

4. *Clinical Aspects of Carcinoma of the Ovary*—L. A. Emge, M. D., 2000 Van Ness Avenue, San Francisco.

   Etiologic factors are discussed in relation to frequency and age. The diagnosis, and particularly the differentiation of the type of carcinoma based on uterine bleeding phenomena, form the main theme of the paper. The merits of surgical and radiologic treatment are discussed only briefly.

   Discussion opened by Roy Fallas, M. D., Los Angeles.

IX

PATHOLOGY AND BACTERIOLOGY SECTION

Ernest M. Hall, M. D., *Chairman*
St. Vincent's Hospital, Los Angeles

George D. Maner, M. D., *Secretary*
Wilshire Medical Building
1930 Wilshire Boulevard, Los Angeles

Z. E. Bolin, M. D.
Chairman, Section Program Committee
University of California Medical School
San Francisco

First Meeting—Red Room

Joint Meeting of Pathology and Bacteriology and General Medicine Sections

Monday, April 27, 2:30 to 5 p. m.

This program of the joint meeting is printed under the first meeting of the General Medicine Section. See page 298.

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Second Meeting—Vanderbilt Room

Tuesday, April 28, 2:30 to 5 p. m.

1. *Chairman's Address—Experimental Copper Poisoning*—Ernest M. Hall, M. D., Los Angeles.
2. *A Reducing Body in the Blood of Nephritics*—Rawson J. Pickard, M. D., 805 Watts Building, 520 E Street, San Diego.

   Report of a nonglucose reduction found in the blood of patients with albumin and casts in the urine.
3. *Hematological Findings in Nephritis*—Lawrence Parsons, M. D. (by invitation), 1100 North Mission Road, Los Angeles; Theodore S. Kimball, M. D., 312 North Boyle Avenue, Los Angeles; and Martha W. Ekola, M. S., Los Angeles (by invitation).

   The literature on hematological findings in renal disease is reviewed. A discussion of the parallelism between the anemia and nitrogen retention in cases showing impairment of renal function is given. Observations on a short series of cases are reported and compared with the data in the literature.
4. *Nonprotein Nitrogen Curves in Health and Disease*—Paul S. Dougherty, M. D., 2014 South Figueroa Street, Los Angeles; Albert L. Chaney, Ph. D.; and Ruth Bolton (by invitation), 1100 North Mission Road, Los Angeles.

   The effect of ingestion of a high protein meal on the N. P. N. determination in blood was studied for both normal and pathological cases. Samples were taken fasting and at hourly intervals after the meal for a period of eight hours.
5. *Experimental Rickets and Calcification of Dentine*—H. Becks, M. D., Hooper Foundation for Medical Research, San Francisco. (By invitation.)

   The influence of rachitic Diet 3143 (McCollum) on the activity of odontoblasts has been studied. The results can be applied to the histogenesis and pathogenesis of bone. The question of pathologic changes of the forming cells and their effect upon the formation of ground substance, osteoid and dentinoid tissue as well as their calcification will be discussed.
6. *Experimental Nephritis*—Jean Oliver, M. D., care of Hoagland Laboratories, Brooklyn, New York. (By invitation.)

Special Notice to Section Members

9 to 11 a. m.—Visit to University of California Medical School Pathology Museum.

12:30 p. m.—Luncheon for Pathology and Bacteriology Section in Little Grill.

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Third Meeting—Red Room

Wednesday, April 29, 2:30 to 5 p. m.

Joint Meeting of General Medicine and Pathology and Bacteriology Sections

Symposium on the Newer Knowledge of Nephritis

1. *Pathology*—Jean Oliver, M. D., Hoaglund Laboratories, Brooklyn, New York (by invitation), and William Ophüls, M. D., Stanford Medical School, San Francisco.
2. *Clinical Aspects*—B. O. Raulston, M. D., 709 Westlake Professional Building, 2007 Wilshire Boulevard, Los Angeles; Thomas Addis, M. D., Stanford University Medical School, San Francisco; E. M. MacKay, M. D. (by invitation), 476 Prospect Street, La Jolla.

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Visit by Section Members to the Pathological Laboratories of the Southern Pacific Hospital

Wednesday 10 a. m. to 1 p. m.

Visit to new pathological laboratories of the Southern Pacific Hospital. Followed by a buffet luncheon at the Southern Pacific Hospital as guests of W. T. Cummins, M. D.

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Fourth Meeting—Vanderbilt Room

Thursday, April 30, 9 to 11:30 a. m.

1. *Coronary Sclerosis as Seen in a Coroner's Service*—A. A. Berger, M. D., 202 Clement Street, San Francisco. (Demonstration of specimens and lantern slides.)
2. *Injuries of the Brain*—(Demonstration with specimens and lantern slides.) A. M. Moody, M. D., St. Francis Hospital, San Francisco.
3. *Etiology of the Recent Epidemic of Horses in the San Joaquin Valley*—Karl F. Meyer, Ph. D., Hooper Foundation for Medical Research, San Francisco. (By invitation.) (Lantern slides and motion pictures).
4. *A Method for Titrating Diphtheria Antitoxin in Small Quantities of Blood*—W. H. Kellogg, State Hygienic Laboratory, Berkeley.

   Test is one based upon property of diphtheria toxin to produce a definite skin reaction in white guinea pigs in amounts of less than 1/300 of a MLD. By the use of a dose of diphtheria toxin and antitoxin containing an excess of one Kellogg test dose of toxin, amount of antitoxin as small as 1/1000 of a unit can be detected. Tests of immunity can be made with a drop of dried blood.
5. *Myomata of Stomach and Small Intestine*—R. W. Hammack, M. D., 1003 Pacific Mutual Building, 523 West Sixth Street, Los Angeles.

   A brief review of literature. Report of two cases of myoma of the stomach and two of the small intestine. Discussion of pathologic features. Discussion of clinical symptoms of which hemorrhage is most prominent.

6. *Diagnosis of Malignancy—Study of Sediment of Ascitic and Pleural Fluids*—R. J. Millzner, M. D., University of California Hospital, San Francisco.

   The examination of the sectioned centrifuged sediment of ascitic and pleural fluids permits a positive or probable diagnosis of malignancy in about 70 per cent of the effusions caused by malignant involvement of the pleura or the peritoneum.

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X

PEDIATRIC SECTION

Donald K. Woods, M. D., *Chairman*
Fifth and Laurel Streets
San Diego

E. Paul Cook, M. D., *Secretary*
215 Sainte Claire Building
San Jose

Clifford D. Sweet, M. D.
Chairman, Section Program Committee
242 Moss Avenue, Oakland

First Meeting—California Room

Tuesday, April 28, 2:30 to 5 p. m.

1. *A Case of Angioma Arteriale of the Cerebral Cortex*—Hartzell H. Ray, M. D., 23 Second Avenue, San Mateo.

   A review of the English literature; discussion of the symptomatology, etiology, and treatment of this rare type of blood-vessel tumor, together with illustrations of various types of these anomalies. Case report.

   Discussion by Howard Fleming, M. D., San Francisco, and Thomas Cornwall, M. D., San Francisco.

2. *Tuberculosis Among Oriental Children in San Francisco*—Lloyd B. Dickey, M. D., Stanford University Medical School, San Francisco.

   The incidence of tuberculous infection and disease in unselected groups of Chinese and Japanese children in San Francisco, living in that part of the community where the mortality rate for tuberculosis is four times that of the city at large, and where contacts with open cases of tuberculosis are more numerous and intimate.

   Discussion by Harold K. Faber, M. D., San Francisco; Philip King Brown, M. D., San Francisco; and William C. Hassler, M. D., San Francisco.

3. *The Tuberculin Test in the Diagnosis of Childhood Tuberculosis—A Review of Recent Progress*—Ernst Wolff, M. D., 1033 Four Fifty Sutter Street, San Francisco, and Robert S. Stone, M. D., University of California Hospital, San Francisco.

   The question of specificity of the tuberculin test and its relation to x-ray interpretation is discussed. The intensity of the tuberculin reaction increases in proportion with the percentage of children showing roentgenologic findings having active tuberculosis and having clinical and x-ray evidences of tuberculosis. The indication of the various test methods with tuberculin are considered.

   Discussion by Clain F. Gelston, M. D., San Francisco, and Lloyd B. Dickey, M. D., San Francisco.

4. *Behavior of the Monocytes in Tuberculosis in Childhood*—William Anthony Reilly (by invitation), M. D., University of California Hospital, San Francisco.

   Statistical comparison of Wright's stain with the supravital stain for monocytes. Results, while of value as an index of increased activity, do not confirm the high monocyte percentage reported by previous investigators. The small proportion of patients with miliary tuberculosis may account for discrepancy.

5. *Osteochondritis of Adolescents*—Orrin S. Cook, M. D., Medico-Dental Building, 1127 Eleventh Street, Sacramento.

   Perthes' disease of the hip, Koehler's disease of the tarsal scaphoid, and various similar conditions involving other joints have been described as different diseases by the various individuals whose names are attached to them, but they are all alike in etiology and pathology and are, therefore, all parts of the same pathologic entity. These conditions are discussed briefly from the clinical and roentgenologic standpoints. (Lantern slides.)

   Discussion by Clain Gelston, M. D., San Francisco, and George J. McChesney, M. D., San Francisco.

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Second Meeting—California Room

Thursday, April 30, 9 to 11:30 a. m.

1. *Children's Dentistry*—Charles A. Sweet, D. D. S., 242 Moss Avenue, Oakland. (By invitation.)

   Demonstration with patients and lantern slides of operative dental procedures. Demonstration of proper way to teach brushing of teeth. Résumé of recent dental researches on causative factors of dental caries. Necessity of oral prophylaxis at an early age.

2. *Poliomyelitis—A Review of the 1930 Epidemic in Los Angeles*—Oscar Reiss, M. D., 312 Wilshire Medical Building, 1930 Wilshire Boulevard, Los Angeles.

   The 1930 epidemic of poliomyelitis in Los Angeles City briefly reviewed. Number of cases and mortality rate compared to other epidemics. A study is presented of two hundred cases observed in the Los Angeles General Hospital, with special note as to type. Cytological studies shown. The results obtained with convalescent serum analyzed.

   Discussion by Harold K. Faber, M. D., San Francisco, and William Palmer Lucas, M. D., San Francisco.

3. *Pyelitis in Children—A Consideration of Chronic and Recurring Pyuria and Its Treatment*—William M. Happ, M. D., 925 Pacific Mutual Building, 523 West Sixth Street, Los Angeles.

   Paper presents for discussion a consideration of recurrent and chronic cases of pyuria in children, associated with indefinite and nonlocalizing symptoms. Discussion of relationship to anatomic changes in the urologic tract, particularly stricture of the ureter, which may be congenital or acquired. Treatment.

   Discussion by Elmer Belt, M. D., Los Angeles.

4. *Clinical Use of Bacteriophage*—Rieta C. Hough, M. D., 1212 Medico-Dental Building, 233 A Street, San Diego.

   Series of case reports in which bacteriophage has been used, including cases of gastro-enteritis, ruptured appendix with peritonitis, rhinitis, furuncles, and septic meningitis. Paper will be presented purely from the standpoint of a clinician, not from that of a research artist.

   Discussion by J. Rawson Pickard, M. D., San Diego, and Edward B. Shaw, M. D., San Francisco.

XI

RADIOLOGY SECTION

Charles M. Richards, M. D., *Chairman*
303 Medico-Dental Building
San Jose

L. Henry Garland, M. D., *Secretary*
1739 Four Fifty Sutter Street
San Francisco

William H. Sargent, M. D.
Chairman, Section Program Committee
Franklin Building
1624 Franklin Street, Oakland

First Meeting—Little Grill
Tuesday, April 28, 2:30 to 5 p. m.

1. *Chairman's Address*—Charles M. Richards, M. D., San Jose.
2. *Discussion of Business Matters*—To be opened by William H. Sargent, M. D., of Oakland.
3. *Discussion of Technical Matters*—To be opened by John D. Lawson, M. D., of Woodland.

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Second Meeting—Little Grill
Wednesday, April 29, 2:30 to 5 p. m.

1. *The Diagnostic Value of Prepyloric and Pyloric Roentgen Findings*—Robert S. Stone, M. D., University of California Hospital, San Francisco, and Howard E. Ruggles, M. D., 312 Fitzhugh Building, 384 Post Street, San Francisco.

   Changes in the shape of the pyloric and prepyloric regions of the stomach may be due to intrinsic lesions such as carcinoma, ulcer, lues, etc., or may be the result of perigastric adhesions or extrinsic tumors. Many times, however, defects closely resembling the above are entirely due to spasm. By reviewing cases proved at operation or autopsy the authors attempt to bring out the diagnostic value of the various defects, especially those not due to local lesions.

   Discussion by J. Homer Woolsey, M. D., San Francisco, and Milton J. Geyman, M. D., Santa Barbara.

2. *Lesions of the Colon From a Roentgenologic Standpoint*—Raymond G. Taylor, M. D., Mila J. Kinney, M. D., and Richard T. Taylor, M. D., 1212 Shatto Street, Los Angeles.

   The roentgen aspects of diseases of the colon are briefly reviewed: first, the various organic lesions; second, colitis; and third, spasm. The manifestations of colitis and spasm are dealt with especially. (Lantern slides.)

   Discussion opened by Robert R. Newell, M. D., San Francisco.

3. *End Results in the Roentgen Treatment of Graves' Disease*—J. Marion Read, M. D., 1530 Medico-Dental Building, 490 Post Street, San Francisco.

   A follow-up study of a group of patients with Graves' disease, all of which were treated by nonsurgical measures. These varied according to the individual case, all patients receiving, however, roentgen irradiation to the thyroid gland. The time which elapsed since treatment was given varies from two to ten years.

   Discussion by John M. Rehfisch, M. D., San Francisco, and William J. Kerr, M. D., San Francisco.

4. *Cancer of the Female Genital Organs—End Results in the Radiation Treatment*—William H. Sargent, M. D., 616 Franklin Building, 1624 Franklin Street, Oakland.

   The five-year results in a series of approximately eighty cases of carcinoma of the cervix, and approximately ninety cases of carcinoma elsewhere in the female genital tract are briefly described. The prognosis of certain malignancies such as those of the vagina are discussed.

   Discussion by C. Frederick Fluhmann, M. D., San Francisco, and Orville N. Meland, M. D., Los Angeles.

5. *Carcinoma of the Breast—Treatment by Interstitial Radiation*—Albert Soiland, M. D., 1407 South Hope Street, Los Angeles.

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Third Meeting—Little Grill
Thursday, April 30, 9:00 to 11:30 a. m.

Case Reports

1. *Pleuropneumonitis Following Deep X-Ray Therapy*—Earl H. Gray, M. D., Woodland Clinic, Woodland.
2. *Passive Congestion of the Lungs in the Presence of Coronary Artery Occlusion*—John F. Chapman, M. D., 209 Professional Building, 65 North Madison Avenue, Pasadena.
3. *Gastric Obstruction as a Result of Perisplenic Hematoma—Confusion with Diaphragmatic Hernia*—Robert A. Powers, M. D., Medico-Dental Building, Palo Alto.
4. *Congenital Atresia of the Esophagus*—Ralph S. Graham, M. D., Sutter Hospital, Sacramento.
5. *Subdiaphragmatic Retroperitoneal Abscess, with Air-Filling Following Retroperitoneal Drainage*—Frederick H. Rodenbaugh, M. D., 321 Medico-Dental Building, 490 Post Street, San Francisco.
6. *Unusual Roentgen Finding*—Rolla G. Karshner, M. D., 510 South Lucas Avenue, Los Angeles.

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RADIOLOGICAL EXHIBIT

The radiological exhibit will be placed in the back of the general meeting hall (Gold Room). The California Medical Association recently purchased four large, adaptable viewing cabinets in order that there might be ample room and excellent facilities for a radiological showing. Members who are desirous of arranging for space are requested to get in touch with the secretary of the Radiological Section, L. H. Garland, M. D., 450 Sutter Street, San Francisco, not later than April 10.

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XII

UROLOGY SECTION

Harry W. Martin, M. D., *Chairman*
1010 Quinby Building
650 South Grand Avenue, Los Angeles

Nathan G. Hale, M. D., *Secretary*
418 Medico-Dental Building
1127 Eleventh Street, Sacramento

First Meeting—Little Theater
Monday, April 27, 2:30 to 5 p. m.

1. *Chairman's Address—Rupture of the Bladder—A Simple and Accurate Method of Diagnosis, with Case Reports*—Harry W. Martin, M. D., Los Angeles.
2. *Surgical Accidents to the Female Pelvic Ureter*—Edward W. Beach, M. D., 306 Medico-Dental Building, 1127 Eleventh Street, Sacramento.

   Anatomy; history; types of injury and their responsible gynecological operations. Prophylactic and reconstructional measures. Review of four cases personally observed with the methods applied and subsequent results. (Lantern slides.)

Discussion opened by Franklin Farman, M. D., Los Angeles.

3. *Evolution of the Operation of Prostatectomy*—Verne C. Hunt, M. D., Roosevelt Building, 727 West Seventh Street, Los Angeles.

   Early methods of dealing with bladder-neck obstructions. A consideration of the early methods of perineal and suprapubic removal of prostatic enlargements; and a consideration of the modern methods of prostatectomy.

   Discussion opened by Frank Hinman, M. D., San Francisco.

4. *Carcinoma of the Penis*—A. M. Meads, M. D., 251 Moss Avenue, Oakland.

   A brief review of the etiology, types, metastasis, etc. Types of treatment. Lessons from a study of five cases. Radical amputation. A plastic procedure for the formation of a false penis following amputation. (Lantern slides.)

   Discussion opened by James R. Dillon, M. D., San Francisco.

5. *The Genito-Urinary Tract of the Fin-Back Whale (Cetacean Rorquol)*—A. Elmer Belt, M. D., 722 Pacific Mutual Building, 523 West Sixth Street, Los Angeles.

   Motion pictures.

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Second Meeting—Little Theater

Tuesday, April 28, 2:30 to 5 p. m.

1. *Surgery of the Kidney During Pregnancy*—Franklin Farman, M. D., 709 California Medical Building, 1401 South Hope Street, Los Angeles, and K. C. Gummess, M. D., 733 Chapman Building, 756 South Broadway, Los Angeles.

   Kidney surgery during the pregnant state by no means rare. In the authors' case, nephrectomy for abscess of the kidney was carried out during the fifth month of pregnancy. Importance of kidney complications arising during pregnancy, some of which demand surgical interference.

   Discussion opened by William E. Stevens, M. D., San Francisco.

2. *Differential Diagnosis of Pathologic Conditions of the Upper Urinary Tract and Other Abdominal Organs*—William E. Stevens, M. D., 602 Flood Building, 870 Market Street, San Francisco.

   Reasons for confusion in diagnosis. Pathologic conditions of the upper urinary tract mistaken for diseases of other organs. Extra-urinary tract conditions simulating lesions of the kidneys or ureters. Coexisting lesions. (Lantern slides.)

   Discussion by Charles P. Mathé, M. D., San Francisco, and Anders Peterson, M. D., Los Angeles.

3. *Experiences with Intravenous Urography*—Leo Buerger, M. D., 1003 Wilshire Medical Building, 1930 Wilshire Boulevard, Los Angeles, and J. Abowitz, M.D., 4507 Kingswell Avenue, Los Angeles.

   Evaluation of the clinical application of this method; data obtained in reno-ureteral anomalies, renal ptosis, ureteral pathology, renal and ureteral lithiasis, hydronephrosis, reno-ureteral tuberculosis, neoplasms of kidney and bladder, hypertrophy of prostate (adenoma), in cases of obscure gastro-intestinal symptoms; and the interpretation of the findings. (Lantern slides.)

   Discussion by Lewis Michelson, M. D., San Francisco.

4. *Perinephritic Abscess Complicating Polycystic Kidney—Report of a Case*—Morrell Vecki, M. D., 1017 Four Fifty Sutter Street, San Francisco.

   Review of the literature of such cases. Rarity. Report of case including history, physical examination, urinalysis, phthalein, blood chemistry, cystoscopy, operation and pathologic report. Demonstration of specimens, bilateral polycystic kidneys. Comments. Masking of condition by infection.

   Discussion opened by Thomas E. Gibson, M. D., San Francisco.

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Third Meeting—Tapestry Room

Wednesday, April 29, 2:30 to 5 p. m.

1. *The Frequency of Tubercle Bacilli in the Urine in Chronic Pulmonary Tuberculosis in Relation to Urogenital Complications*—Esther Rosencrantz, M. D., San Francisco Hospital, San Francisco, and F. L. A. Gonzales, M. D., 1432 Four Fifty Sutter Street, San Francisco.

   Urine of two hundred male patients with chronic pulmonary tuberculosis proven by positive sputum, examined and inoculated into guinea-pigs. Seven per cent were positive for tubercle bacilli—all cases especially studied as to onset and frequency of urogenital findings with relationship to pulmonary conditions and other complications.

   Discussion opened by Lionel P. Player, M. D., San Francisco.

2. *Pyogenic Urinary Infections*—Frank Hinman, M.D., 603 Fitzhugh Building, 384 Post Street, San Francisco.

   Introduction. Unsatisfactory clinical nature of pyelitis and pyelonephritis as descriptive terms of urinary infections. Difficulties of classification arise from following considerations: (1) Etiological conditions (*a*) bacterium; (*b*) urinary obstructions or stasis; (*c*) routes of invasion. (2) Anatomopathological considerations: (*a*) lower versus upper tract; (*b*) renal pathology. A practical clinical classification of urinary infections: (*a*) open, or primary infection; (*b*) obstructive or secondary infection.

   Discussion opened by A. Elmer Belt, M. D., Los Angeles.

3. *Epididymitis*—J. C. Negley, M. D., Brack Shops Building, 527 West Seventh Street, Los Angeles.

   Etiology; generally infection of contiguous parts as vesicles, prostate, bladder, urethra, etc. Trauma plays small part when infection is absent. Blood-borne infections, possible but rare. Pathology: deals with type of infection, *i. e.*, gonorrheal, pyogenic, tuberculous, etc.; acute or chronic stage. Diagnosis: history urine findings, clinical signs both objective and subjective. Treatment: medical or surgical. Comparative analysis of results. Type of case requiring surgery.

   Discussion by Louis C. Jacobs, M. D., San Francisco.

4. *Calculous Anuria*—Edgar C. Lee, M. D., 811 Medico-Dental Building, 233 A Street, San Diego.

   Discussion of a case in which sudden blocking of one ureter by a calculus caused complete anuria, the opposite kidney being absent or diseased. No previous urinary symptoms. A review of the diagnosis, the course of the disease and the treatment.

   Discussion opened by A. A. Kutzmann, M. D., Los Angeles.

ENTERTAINMENT PROGRAMS

GOLF

GOLF COMMITTEE

Frank Sheehy, Chairman	San Francisco
Robert F. Kile	San Francisco
James W. Morgan	Modesto

The Golf Tournament held in conjunction with the coming state meeting will be held on Thursday afternoon, April 30, 1931 at the Lake Merced Golf and Country Club.

Those members desiring to participate should notify Frank Sheehy, M. D., chairman, on or before April 24. Flights will be held in three classes, A, B and C, and appropriate prizes will be distributed to winners of Low Gross and Low Net in each flight. There will be additional prizes, as donated.

Buffet luncheon will be served at noon. Dinner for those desiring to attend same will be served at 7 p. m.

ENTERTAINMENT EVENTS FOR WOMEN GUESTS

Women physicians in attendance, wives and guests of members of the California Medical Association, are cordially invited to register at the entertainment desk for the various events listed.

1. **Tea for the President's Wife and Visiting Women.**

Tuesday, April 28, from 3 to 5 p, m.—San Francisco County Medical Society Building, 2180 Washington Street, corner of Laguna.

Take Yellow Taxi, or Jackson Street car on Powell to Laguna, and walk up hill one block to Sacramento.

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2. **Luncheon and Sightseeing Trip.**

Wednesday, April 29, 12:30 p. m.—Luncheon at the Shanghai Low restaurant in Chinatown, 532 Grant Avenue, (one street below Powell), will be followed by a sightseeing drive to points of interest in San Francisco and vicinity. Drive starts from Shanghai Low restaurant immediately following luncheon. The cost of the luncheon (50 cents) will be individually borne. The sightseeing trip is complimentary.

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3. **Golf.**

Thursday morning, April 30—Matches will be arranged at the Presidio Golf Club for all women who desire to play golf. Green fee, $3.

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Dinner to Visiting Women Physicians

The San Francisco Women Physicians' Club cordially invite all visiting women physicians attending the convention to a dinner to be held at the Western Women's Club, 609 Sutter Street, on Wednesday evening, April 29 at 6:30 o'clock. Reservations should be made at the women's entertainment desk in the lobby of the Fairmont Hotel.

WOMAN'S AUXILIARY LUNCHEON

Tuesday, April 28, 12:30 p. m.
Gray Room, Fairmont Hotel

The annual luncheon of the Woman's Auxiliary will be held in the Gray Room of the Fairmont Hotel, immediately to the right of the main dining room.

Members of the auxiliary and those eligible for membership are cordially invited to make reservation for this luncheon at the Woman's entertainment desk in the lobby. Cover charge, $1.25.

During the luncheon, Lyell C. Kinney, M. D., President of the California Medical Association, and Junius B. Harris, M. D., President-Elect, will speak on some special phase of the general topic, "Opportunities and Limitations of the Woman's Auxiliary."

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Guest Cards—Woman's City Club

The privileges of the Woman's City Club of San Francisco, 465 Post Street, have been extended to all visitors during their stay. Guest cards may be secured at the entertainment desk.

WOMAN'S AUXILIARY MEETINGS

Mrs. James F. Percy, *President,* 1030 South Alvarado Street, Los Angeles.

Mrs. James M. McCullough, *First Vice-President,* Crockett.

Mrs. Thomas A. Stoddard, *Second Vice-President,* 851 California Street, San Francisco.

Mrs. Dexter R. Ball, *Secretary-Treasurer,* 2419 Bonnie Brae, Santa Ana.

All members of the state and county auxiliaries are invited to participate.

Board Meeting.—A board meeting will be held in headquarters, room 134, on the mezzanine on Monday at 10:30 a. m.

First General Meeting.—On Tuesday, April 28, at 9:30 a. m. a meeting of the Woman's Auxiliary of the California Medical Association will be held in the Red Room. All members of county and state auxiliaries and all visiting women eligible to membership are invited to attend.

Woman's Auxiliary Luncheon.—A luncheon meeting has been arranged for Tuesday, 12:30 p. m., following the morning sessions. (See notice above.)

Second General Meeting.—On Wednesday, April 29, at 9:30 a. m., a second meeting of the Woman's Auxiliary of the California Medical Association will be held in the Red Room. The officers for the new year will be elected at this meeting. All members of the auxiliary and all visiting women eligible to membership are earnestly requested to attend. If it is found convenient, a postconvention round table of the officers and delegates will be planned and announced by the incoming president.

Headquarters for Members.—Room 134, on the mezzanine, has been set aside as a general headquarters for members.

STATE MEDICAL ASSOCIATIONS

CALIFORNIA MEDICAL ASSOCIATION*

LYELL C. KINNEY	President
JUNIUS B. HARRIS	President-Elect
EMMA W. POPE	Secretary

OFFICIAL NOTICES

The next meeting of the Council of the California Medical Association will be held at the Fairmont Hotel, San Francisco, at 8 p. m., Sunday, April 26, 1931, room 126.

Daily meetings during the annual session will be held thereafter by the Council in Room 126, first floor.

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Nineteen Thirty-One Annual Session Headquarters

Fairmont Hotel.—Headquarters for the next annual session, to be held at San Francisco April 27 to 30, 1931, will be the Fairmont Hotel.

The Fairmont has quoted the following rates for rooms, all with baths:

Single rooms, opening on large inner court, $4.
Double rooms, opening on large inner court, $6.
Single outside rooms with city and marine view, $6.
Double outside rooms with city and marine view, $8.
Double outside rooms with city and marine view, $10.

You are advised to make your reservations at once.

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This Is the Last Issue Which Will Be Mailed to Delinquent Members

If *you* are among those on the "delinquent" membership list of the State Association, you should get in touch with the secretary-treasurer of your county medical society immediately. Prompt payment of dues will insure the continuance of the JOURNAL, as well as other organization advantages.

In compliance with federal postal regulations the names of all unpaid members must be removed from the JOURNAL mailing list after this April issue appears.

Membership dues for 1931 were due on or before January 1. This obligation was met promptly by a large percentage of the members. As a courtesy to those few who, through neglect or oversight, have thus far failed to pay their 1931 dues, the JOURNAL has been mailed for the first four months of this calendar year. See California Medical Association constitution and by-laws, Chapter X, Section 1, and Chapter II, Section 2.

COMPONENT COUNTY SOCIETIES

CONTRA COSTA COUNTY

The meeting of the Contra Costa County Medical Society was held jointly with the Contra Costa County Dental Association in Richmond on March 10. The minutes of the previous meeting, held in Martinez, were read and approved. A letter from the American College of Surgeons, calling the members' attention to the coming meeting in Oakland, was read. At the request of the State Association the following members were appointed by the chair to serve on the committee to compile a history of the county society: L. St. John Hely, P. C. Campbell, U. S. Abbott, and C. R. Blake, all of Richmond. The secretary made a report of the meeting in Oakland on March 9, held jointly with the Alameda County Society, at which the president of the State Association, Dr. Lyell C. Kinney, was honored. The president's message was conveyed to the members and elicited a great deal of interest.

Dr. W. A. Rowell, president of the society, next introduced Dr. Clifford Sweet of Oakland, who delivered a paper on "Special Aspects of Dentistry in

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* For a complete list of general officers, of standing committees, of section officers, and of executive officers of the component county societies, see index reference on the front cover, under Miscellany.

The Plunge, Fairmont Hotel, San Francisco, C. M. A. Headquarters, Annual Session, 1931

Children." The relationship between physician and dentist in this important work was stressed at great length by the speaker. Physicians were urged to pay more attention to defects of deciduous teeth in their general examination of children. The importance of preserving normal deciduous teeth as long as possible and the bearing of these teeth on the healthful development of the child was illustrated by plaster models, charts, and pathological specimens.

The Dental Association through its president, Dr. L. A. Hewitt, presented Dr. B. E. Lisher of the University of California Dental College, who spoke on "Dental Anomalies." The etiology, diagnosis and treatment of various forms of such anomalies with their influence on facial development was discussed by the speaker and illustrated by a series of lantern slides.

This meeting was one of the most instructive and the best attended that we have had for some time. The Dental Association was very grateful to have an opportunity of hearing the dental problems of children discussed so well by a member of our profession, and the society appreciated the privilege of hearing this all-important subject discussed by a dental expert. Thirty members of the two associations attended this meeting, which was followed by a buffet supper at which the Woman's Auxiliary were guests.

L. H. Fraser, *Secretary.*

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FRESNO COUNTY

The regular monthly meeting of the Fresno County Medical Society was held at the Californian Hotel March 3, twenty-four members being present.

Applications for memberships were received from Dr. J. M. Humphreys of Madera, Dr. Wayne A. Hunt of Fresno, and Dr. Charles E. Nixon of Fresno.

Dr. N. J. Dau made a preliminary report on the tuberculosis education campaign, and announced that Dr. F. M. Pottenger would probably speak at the next regular meeting.

Invitation from the California-Nevada section of the American College of Surgeons to attend their section meetings was read.

A letter from Librarian Miss Sarah E. McCardle was read and referred to the Library Committee.

Dr. Frank Tillman presented a verbal communication that he had been asked to see if the members of the society would consider the sponsoring of the formation of a clinic by the society of the Mexican Baptist Church.

Doctor Dau moved, seconded by Doctor Jorgensen, that the medical society go on record as opposed to such a clinic, and that they be referred to the clinic at the General Hospital. Motion carried.

Committees for 1931:

Board of Censors — C. M. Vanderburgh, J. H. Pettis, and F. K. Pomeroy.

Committee on Ethics—C. A. James, E. J. Couey, and N. J. Dau.

Committee on Library—G. A. Hare, C. O. Mitchell, and C. D. Collins.

Publicity Committee—J. M. Frawley, A. H. Konigmacher, and T. F. Madden.

Program Committee—E. R. Scarboro, G. K. Nider, and C. A. James.

Welfare Committee—A. B. Cowan, J. R. Walker, and C. P. H. Kjaerbye.

Membership Committee—E. H. Coleman, G. K. Nider, and H. A. Randel.

Dr. T. F. Madden was nominated for the third delegate to the state convention by Doctor Vanderburgh. Dr. N. Jorgensen was nominated as alternate by Doctor Morgan. Nomination was closed, and election was carried.

Dr. Henry N. Shaw then presented the scientific paper of the evening, illustrated with lantern slides. His subject was "Repair of Cystocele," and he gave some original modifications of the usual operation, particularly designed to save the blood supply.

E. R. Scarboro, *Secretary.*

NAPA COUNTY

The regular monthly meeting of the Napa County Medical Society was held Wednesday, February 4. at the Hotel St. Helena, St. Helena. The ladies of the auxiliary were present and joined in the banquet that preceded the meeting of the society.

A committee, consisting of the president, Dr. R. S. Northrop, the secretary, Dr. C. A. Johnson, and Dr. W. L. Blodgett, were selected to assist and advise the auxiliary, who held their meeting at the residence of Doctor Booth of St. Helena.

The meeting was called to order by Dr. R. S. Northrop, president, and the minutes of the previous meeting read and approved.

Dr. M. M. Booth of St. Helena was elected as delegate to succeed Dr. C. E. Sisson, who has left this county. Dr. C. A. Johnson of Napa was elected alternate.

The program of the evening was conducted by Doctors Gray, McNeil, and Blevins of Woodland Clinic. Doctor Gray spoke briefly upon x-ray therapy in skin diseases. Doctor McNeil, orthopedist, discussed Colle's fracture with especial reference to reduction and after-treatment. Dr. Blevins discussed some recent unusual obstetrical cases, their treatment and prognosis, and also discussed briefly the treatment of eclampsia. Through the courtesy of the Petrolagar Company, motion pictures were shown of the technique of Colle's fracture reduction; also gall bladder and urinary bladder surgery, an interesting and instructive film.

Members present were: E. F. Anderson, W. L. Blodgett, M. M. Booth, A. E. Chappel, G. I. Dawson, C. A. Gregory, C. A. Johnson, A. H. McLish, D. H. Murray, C. E. Nelson, R. S. Northrop, H. W. Vollmer, George Wood.

Doctors E. H. Gray, W. J. Blevins, McNeil, all of Woodland, attended as guests.

C. A. Johnson, *Secretary.*

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PLACER COUNTY

The Placer County Medical Society met at a specially called meeting at Auburn, March 5, with the president, Doctor Eveleth, presiding.

There were present the following members: Doctors Eveleth, Peers, Dunievitz, C. C. Briner, Russell, Paul D. Barnes, L. B. Barnes, Fay, Monica, Stoy Briner, Thoren, and McArthur.

Visitors present were: Dr. Lyell C. Kinney, president of the California Medical Association; Dr. J. B. Harris, president-elect of the California Medical Association; Dr. Thomas C. O'Connor, medical superintendent of the Bret Harte Sanatorium; Dr. D. M. Kindopp of Colfax; Doctors Zimmermann, Hale, Schoff, and Scatena of Sacramento; Doctors Cameron and Fraser of Weimar Sanatorium; and Mr. Hartley Peart, general counsel of the California Medical Association.

This being a special meeting, called for the purpose of receiving Dr. Kinney, Dr. Harris, and Mr. Peart, all business matters were omitted.

Doctor Kinney gave a very interesting and instructive address, touching upon the relations between the members of the local units, the delegates, and the state organization; the changed economic conditions now existing which influence very markedly the practice of medicine and the life of the individual physician; the relations which should exist between the county societies and all legislative parties, the press, and the public; and, finally, the necessity that each individual member of the county societies be thoroughly aware of the present attitude toward state medicine.

Following Doctor Kinney's very able and illuminating address, Doctor Harris outlined for the members the various bills now before the legislature having a direct or an indirect bearing on the medical profession. Doctor Harris went into detail regarding several of the more important measures.

Mr. Hartley Peart closed the meeting with a discussion of the relations between the general counsel and the California Medical Association and also between the general counsel and the individual members of the Association. He outlined in detail some of the more important legal problems which have come to him recently for solution and gave the members valuable information regarding the protection given by the State Association, particularly through the Medical Society of the State of California.

Following a general discussion the president thanked the officers for their visit and for the very stimulating and inspiring addresses which they had delivered.

Society adjourned for refreshments.

Robert A. Peers, *Secretary.*

SAN BERNARDINO COUNTY

The regular meeting of the San Bernardino County Medical Society was held at the County Hospital in San Bernardino, Tuesday, March 3.

The meeting was called to order by the second vice-president at 8:10 p. m. and the minutes of the previous meeting read and approved.

The application of Dr. Leonard Daly was passed by unanimous vote.

Delinquent members were notified that delinquency cancels their malpractice insurance.

It was decided that there would be no April meeting, the Southern California Medical Association and the State Association both holding meetings during that month.

The following program of the evening was then given:

Motion picture: "Acute Appendicitis," by Dr. Edward Martin of Philadelphia. Discussion opened by Dr. Carlos Hilliard.

Motion picture: "Flap and Suture Method of Cataract Extraction." Discussion opened by Dr. A. T. Gage on "What the General Practitioner Should Know About Cataract."

General discussion followed, after which refreshments were served.

E. J. Eytinge, *Secretary.*

SAN JOAQUIN COUNTY

The stated meeting of the San Joaquin County Medical Society was held Thursday evening at 8:30 o'clock, February 5, in the Medico-Dental clubrooms at 242 North Sutter Street, Stockton.

The meeting was called to order by the president, Dr. G. H. Rohrbacher. The secretary read the minutes of the previous meeting and of a special meeting of the board of directors. Both were approved.

A letter was read from the Seventh District Dental Society, Stockton, inviting the medical society to two joint meetings: one on Friday evening, March 27, to hear A. W. Meyer, M. D., of Stanford University, in a lecture on the "Anatomy and Histology of Bone of the Alveolus"; the second on Thursday, April 2, to hear Herman Becks, M. D., D. D. S., of the University of California on the subject, "Pathology of the Mouth and Paradentioms." On motion by Dr. Dewey Powell, duly seconded and carried, it was decided that the San Joaquin County Medical Society would meet on these two evenings with the Dental Society.

There being no further business the scientific program was introduced. Dr. J. J. Frey first talked on the subject, "Milk Technology and Dairy Economy."

The principal speaker of the evening, Dr. Leroy C. Abbott, was then introduced and gave an illustrated lecture on "Treatment of Crippling Conditions in Children."

Three motion-picture reels were shown illustrating the correction of deformity in a variety of conditions. The first reel showed deformities which occur as a result of infantile paralysis. The patients were shown before and after correction of the various deformities of the upper and lower extremities. Special emphasis was laid on the importance of the prevention of deformity and relaxation of the paralyzed muscles by the proper application of support to the paralyzed limbs early in the course of the disease. It was pointed out that gross deformities develop from lack of proper treatment and that these deformities often require a number of operations for their correction before any reconstructive surgery can be carried out to improve function.

The second reel showed deformities of rickets—extreme bowlegs and after-correction. There were also several cases of extensive burns with severe deformities resulting. These deformities were corrected by operation, which involved the removal of scar, correction of the contractures and the application of skin grafts.

The third reel showed a special procedure, which had been devised by the speaker, for lengthening of the tibia and fibula in cases of marked shortening of the lower extremity. This procedure has been particularly successful in the relief of shortening which was caused by infantile paralysis, congenital malformations, and disease of the hip and knee. The lengthening secured has varied from one and one-half to three inches. There have been some complications, such as fracture through the callus during the healing process and displacements of the upper and lower ends of the fibula which have caused deformities of the foot. These latter are largely prevented by a thorough section of the fascia and interosseous membrane.

It must be emphasized that the procedure is one of very considerable magnitude. The multiple pin wounds, plus wide exposure of the medullary canal of the tibia, offer an excellent chance for the development of severe infections unless the surgeon possesses a most rigid, aseptic technique. Anyone who attempts this procedure must thoroughly familiarize himself with every detail of the method and have had considerable experience in the handling of special mechanical appliances.

The paper was discussed by Doctors Dameron, Sanderson. Wallerius, and Brendel.

The meeting was attended by a group of dairymen interested in the paper of Doctor Frey; also, a group of physicians from Sacramento especially interested in the paper by Doctor Abbott. They were: Doctors Harry Kaimer, Raymond Wallerius, Fred Scatena, Orin Cook, and Frank Brendel. Of the local society the following were in attendance: Doctors Chapman, Marnell, English, Peterson, Gallegos, Thompson, Williamson, Conzelman, Sutton, Hill, Owens, Rohrbacher, Blackmun, Dozier, Vanderleek, Doughty, M. Smyth, Blinn, Johnson, Dameron, B. Powell, Sr., Sanderson, Kaplan, B. Powell, Jr., Van Meter, Sippy, Pinney, D. R. Powell, Krout, and McGurk.

C. A. Broaddus, *Secretary.*

SANTA CRUZ COUNTY

The annual business meeting of the Santa Cruz County Medical Society was held at Hotel Reseter, Watsonville, on January 8.

Following the routine business of the evening the election of officers for 1931 was held with the following results: J. C. Farmer of Felton, president; O. C. Marshall of Watsonville, first vice-president; J. Harrington of Santa Cruz, second vice-president; S. B. Randall of Santa Cruz, secretary-treasurer. Censors: W. G. Hatch, E. Eiskamp, and A. C. Atwood. Dr. E. Eiskamp was chosen delegate to the state convention and Dr. P. T. Phillips, alternate delegate.

The application for membership of Dr. J. Johannes, who recently opened offices in Santa Cruz, was read and referred to the board of censors.

The March meeting of the Santa Cruz County Medical Society was held at the Hotel Palomar, Santa Cruz, on the evening of March 15, Doctor Farmer presiding.

Dr. Joseph Johannes of Santa Cruz and Dr. S. P. Tipton of Watsonville were voted new members of the society.

Following the routine business of the evening, Dr. Percy T. Phillips read an eulogy to his recent partner and our recently departed member, Dr. Ambrose F. Cowden. It was most fitting for Doctor Phillips to have presented this obituary, as the death of Doctor Cowden terminated an active and happy professional association of twenty-one years' duration. The passing of Doctor Cowden was a distinct loss to the community and the profession.

The speaker of the evening, Dr. Chauncey D. Leake of the department of pharmacology, University of California, presented a paper on "Recent Advances in Modern Pharmacology." This proved to be one of the most interesting and instructive papers the society has ever been favored with, and we heartily recommend Doctor Leake and his subject to other societies which might be interested in a modern, sensible and instructive presentation of the important subject of chemical therapeutics.

Samuel B. Randall, *Secretary.*

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SANTA BARBARA COUNTY

The regular meeting of the Santa Barbara County Medical Society was held in the Bissell auditorium of the Cottage Hospital on Monday evening, March 9, with President H. J. Ullmann in the chair. After approval of the minutes of the previous meeting, Doctor Ullmann introduced Dr. Alson R. Kilgore of San Francisco, who gave an extremely interesting talk on "Breast Lesions with Precancerous Potentialities," demonstrating his points with gross specimens and lantern slides.

His talk was discussed and questions asked by Doctors Brown, Robinson, Pierce, Ullmann, Nuzum, Evans, Schurmeier, and Williams.

The society then went into executive session, and communications from the California Medical Society regarding legislation were read and ordered filed.

An invitation from the Western Section of the American College of Surgeons to attend their meeting at Oakland April 23, 24, 25, and 26, was read.

It was then moved by Doctor Williams, and seconded by Doctor Brown and unanimously carried, that Dr. Harold Sidebotham be elected an honorary member of the society.

The application for membership in the county society of Dr. August L. Mollath of Guadalupe was read and was referred to the board of censors.

Dr. E. L. Markthaler, chairman of the Public Relations Committee, then read a report of their meeting regarding the public health program relative to endocrinology being carried on by the county health department, and the establishment of a staff in the Santa Maria hospital.

It was moved, seconded and carried, that the report be adopted and filed in the minutes of this meeting.

William H. Eaton, *Secretary.*

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SONOMA COUNTY

The regular meeting of the Sonoma County Medical Society was held at the Sonoma Mission Inn on March 12. The members of the society met with those of the county medical societies of Marin, Napa, and Solano counties. The purpose of the joint meeting was to welcome Dr. Lyell C. Kinney, president of the California Medical Association, and President-elect Junius B. Harris. An excellent dinner was served at 7 p. m., which was enjoyed by fifty physicians.

The meeting was then called to order by President A. Morse Bowles, who welcomed the officials of the California Medical Association and the members of the other county societies. Doctor Rogers introduced the speakers.

Dr. Junius B. Harris of Sacramento, chairman of the Committee on Public Policy and Legislation, gave an interesting résumé of the various bills affecting the medical profession now up before the state legislature. He urged that the corresponding committee of each county society keep in touch with their representatives and stressed the fact that no county committee was to take any independent action, but was to work always through the state committee.

Doctor Kinney was then introduced and gave a most interesting and instructive talk. He is striving for a more intimate relation between the president's office and the various county societies, and is endeavoring to visit each county society in the state. He stressed the importance of a county society in each county, and stated that our State Association will be no stronger than its component county societies.

Each county society should promote public welfare and public health activities; undertake public health education, and contact state legislators through its Committee on Public Policy and Legislation.

He discussed briefly the question of state medicine and urged the medical profession to be in a position to adopt and dictate the policy of such a system, should it become a reality. Twenty-six countries in Europe and South America have already established state medicine.

He outlined the essentials of the future practice of good medicine as follows:

Preserving the personal relation between doctor and patient without governmental or other type of intervention.

Giving the best medicine to all classes, regardless of cost.

Preserving the ethical and economic status of physicians and keeping abreast with medical progress and the advancement of scientific medicine.

Doctor Kinney was heartily applauded for his splendid address. Following a few words of thanks by President Bowles, the meeting adjourned.

The following Sonoma County members were present: Doctors Wheeler, Baldwin, Patterson, Reiss, Rogers, Bowles, Yates, Seawell, Haskell, Peoples, Butler, Finnerty, Fleissner, Spear, Marsh, Shipley, Bogle, Carlson, and Pleth.

T. Hubert Reiss, *Secretary.*

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VENTURA COUNTY

The February meeting of the Ventura County Medical Society was held on Tuesday, February 10. The meeting was called to order by President Wright at 8 p. m.

Members present were: Doctors D. D. Clark, King, Smolt, Bardill, Achenback, W. S. Clark, Felberbaum, Wright, Little, Hendricks, Rhymes, Mosher, Shore, Homer, and Armitstead.

The application of Dr. Artemas J. Strong was read and referred to the State Association for approval, to be then placed on file for the six months' waiting period.

There were no other transactions except a brief discussion in regard to a motion picture projector. No action was taken.

Business transactions were followed by an illustrated lecture on "Common Skin Diseases," which was well received. Doctor Anderson covered the diagnosis and treatment of conditions discussed.

After the completion of the scientific program, the meeting was adjourned.

R. B. Armitstead, *Secretary.*

CHANGES IN MEMBERSHIP

New Members

Alameda County—Caroline Cook Coffin, Eric, Liliencrantz, Edward P. Rankin, Abilio Reis.

Butte County—J. W. Blemer.

Fresno County—Reginald Archie Hunt, Frank M. Sprague, Lester Ralph Nielsen.

Humboldt County—Edwin D. Barnett, Wilson Stegeman.

Los Angeles County—

George Oscar Berg
Hiram M. Currey
Herbert William Dasse
Joseph William Dassett
Leon O. Desimone
William J. Endres
Raoul P. Esnard
Joseph G. Evans
Carl Hamann Gans
David Garrison Ghrist
Morris Richard Gordon
Robert Kenneth Gustafson
Colby Hall
Rowland H. Harris
Robert D. Hyde
Carlyle P. Imerman

Marin County—Wilson Parker Goddard.

Monterey County—Frank E. Wiebe.

Napa County—Edmund Forrest Anderson.

Riverside County—George Wayland Coon, Harold William Naeckel.

Sacramento County—Paul Warren Frame, Ralph Shaw Graham, Hilding Rudolph Johnson, Hermann Edward Lorenz.

San Benito County—Joseph M. O'Donnell.

San Bernardino County—Cecil Everett Burk, Byron F. Mock, Leonard Elmer Daly.

San Francisco County—Leonard W. Buck, Frederick George Niemand, John F. Rickard.

San Luis Obispo County—Horace Hagen, Charles Henry Law, John Roy Ranson.

San Mateo County—Dewey F. Brown, Harry E. Mason, Meade Mohun, Hartzell H. Ray.

Siskiyou County—Peter Paul Baron, Joseph Langer.

Solano County—Arthur R. Thompson.

Sonoma County—Julius T. Rose.

Tulare County—Frank Ralph Guido, John R. Hicks, William A. Johnstone, Ardath H. Wightman.

Yuba-Sutter County—Irving Wilber Higgins.

Resignations

Elizabeth Arthurs, Phillis P. Bourne, Hans B. Christiansen, Anna M. Flynn, Robert L. Groves, Russell L. Guffey, Elizabeth Keys, Ernest H. Nast, all from San Francisco.

Ruth Burr, Robert Hector, Albert K. Merchant, Helene E. Schutz, all from Alameda County.

Thomas M. Evans, from San Diego County.

Transfers

Lela J. Beebe, from Yolo to Santa Barbara County.

Roger U. Campbell, from San Francisco to Contra Costa County.

M. Hugo Childress, from Alameda to Sacramento County.

Walter B. Felger, from Sacramento to Los Angeles County.

Thomas W. Hagerty, from Sacramento to San Joaquin County.

W. H. Kellogg, from San Francisco to Alameda County.

Lawrence R. Leidig, from Mendocino to Tulare County.

Frederick H. Olberg, from Butte to Shasta County.

Thomas Rea, from Alameda to Siskiyou County.

Joseph P. Schell, from Butte to Santa Clara County.

Herbert F. True, from San Francisco to Sacramento County.

Paul R. Walters, from Tulare to Alameda County.

Death

Garland, James Asa. Died February 15, 1931, age 60 years. Graduate of Northwestern University Medical School, Chicago, 1896. Licensed in California, 1914. Doctor Garland was a member of the Los Angeles County Medical Association, the California Medical Association, and the American Medical Association.

OBITUARY

Ambrose Franklin Cowden

1878-1931

It is indeed a sad, sad duty for me to have to speak to you, his friends, of the death of Dr. Ambrose F. Cowden. For this opportunity to pay tribute to Doctor Cowden, as I knew him in life, I am very grateful. I feel that I may evaluate his character as no one else can—his attitude toward life, mankind, and his profession.

For twenty-one years we were partners in the cares and responsibilities of our profession. The satisfactions and joys in the fight against sickness and death were mutual, and each knew that the disappointments of defeat were equally shared. We were more than friends, and to him I give the great measure of credit for the happiness of an association such as ours.

> "Life is a sheet of paper, white
> Whereon each man of us may write
> His word or two—and then comes night."

The doctor's passing was that of a man who had not been allotted the long span of life given to many, but his professional years were intense and crowded with service to mankind. He accomplished the best that a physician can hope for, and was still writing "his word or two" when called so suddenly to rest before the sheet was filled. Being no respecter of persons, "Death, great proprietor of all, will seize the doctor, too."

When death calls us we may be proud if we can be sure of love and devotion such as that in which Doctor Cowden was held by the people of the community in which he lived, and of respect such as that Doctor Cowden held from his confrères with whom he worked. There is no greater honor than the love, respect and affection of one's intimate associates.

He was the best type of physician, and his splendid ability was coupled with that love of mankind which makes their joys his jovs and their sorrows his deepest concern.

Ambrose Franklin Cowden was born at Forest Hill, Placer County, California, March 1, 1878; received his degree of Doctor of Medicine from the University of California in the year 1905; served as intern one year and resident two years at St. Luke's Hospital, San Francisco, coming then to Santa Cruz to practice.

No citizen was more respected or better loved, nor ever could be by his patients. No neighbor was ever more appreciated. The profession and this society have lost a valuable member and one whose memory will last. He was a gentleman and a loyal friend; his integrity was above question.

(Signed) Percy T. Phillips.

THE WOMAN'S AUXILIARY OF THE CALIFORNIA MEDICAL ASSOCIATION

On February 24 an executive board meeting was held at the Jonathan Club in Los Angeles. Mrs. Percy, the state president of the auxiliary had invited all of the members of the board to be her guests at lunch and for the day. The meeting was a very delightful one, as those who were fortunate enough to be able to attend will recall. Those present were: Mesdames J. M. McCullough and C. R. Blake of Contra Costa County; W. L. Blodgett of Napa County; F. E. Coulter, G. Emmett Raitt, Dexter R. Ball of Orange County; W. H. Geistweit, Jr., and E. A. Blondin of San Diego County; H. J. Profant of Santa Barbara County; F. E. Clough of San Bernardino County; Eliot Alden and James F. Percy of Los Angeles County; A. M. Henderson of Sacramento County.

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* As county auxiliaries to the Woman's Auxiliary of the California Medical Association are formed, the names of officers should be forwarded to the state secretary-treasurer, Mrs. Dexter R. Ball, 2419 Bonnie Brae Street, Santa Ana, and to the California Medical Association office, Room 2004, 450 Sutter Street, San Francisco. Brief reports of county auxiliary meetings will be welcomed for publication. For roster of auxiliaries, see advertising page 6.

It was gratifying to greet members from the four corners of the state, and was proof of the interest that is being taken in the auxiliary.

The program chairman, Mrs. F. E. Coulter of Orange County, gave a report and noted that the Woman's Auxiliary of the Oregon Medical Association has a very similar outline for study.

A letter from Mrs. T. A. Stoddard of San Francisco, state second vice-president of the Woman's Auxiliary, stated that since there was no county auxiliary formed in San Francisco, the president of the San Francisco County Medical Society, Dr. Charles P. Mathé, and the chairman of the Committee of Arrangements of the Medical Association, Dr. T. Henshaw Kelly, had appointed a special committee for the entertainment of visiting women. Mrs. Frank Hinman is chairman, and very full plans for the entertainment of visiting women are being developed.

Two county auxiliaries have been formed this year—those of Sacramento and San Luis Obispo.

After lunch a new constitution for the auxiliary was discussed and suggested changes were noted. The next convention, in San Francisco, will be presented with a draft as approved by the executive board of the California Medical Association and by the board of directors of the Woman's Auxiliary.

Edna M. Ball, *Secretary-Treasurer.*

NEVADA STATE MEDICAL ASSOCIATION

W. A. SHAW....President
R. P. ROANTREE, Elko....President-Elect
H. W. SAWYER, Fallon....First Vice-President
E. E. HAMER, Carson City....Second Vice-President
HORACE J. BROWN....Secretary-Treasurer
R. P. ROANTREE, D. A. TURNER,
S. K. MORRISON....Trustees

COMPONENT COUNTY SOCIETIES

WASHOE COUNTY

The Washoe County Medical Society held its regular monthly meeting on the night of March 10 at the Nevada State Building. Doctor Creveling, president, officiated.

After the usual routine of business was dispensed with, the secretary read the approved applications of Doctors Welsh and Miller, both of Reno, for membership, which were accepted by the society. Resolutions of respect by the committee appointed for the death of Dr. J. B. Hardy, who died of pneumonia in Reno on February 19, 1931, were read and copies of same sent to relatives of deceased, and a copy to be spread on the minutes of the society.

There was a general discussion of the various sites suitable for the future veterans' hospital soon to be constructed in Nevada. Also, as this is the session of the Nevada state legislature, the need of a more active representation at the Capitol of an energetic judiciary committee. The Osteopathic Bill pending, to restrict the function of osteopathic physicians to the work of osteopathy, was discussed, but owing to the fact that the regular establishment of physicians and surgeons in Nevada are so willing that "James" should do it, little has been accomplished in progressive legislation.

Business and discussions disposed of, the society, which was represented with twenty members and six visitors, proceeded to enjoy an Eastman film made under the auspices of the American College of Surgeons. The film was the professional picture of "Acute Appendicitis," offered by that company. The film was valuable and instructive.

Thomas W. Bath, *Secretary.*

UTAH STATE MEDICAL ASSOCIATION

WILLIAM L. RICH, Salt Lake City....President
R. A. PEARCE, Brigham City....President-Elect
M. M. CRITCHLOW, Salt Lake City....Secretary
J. U. GIESY, 701 Medical Arts Building,
Salt Lake City....Associate Editor for Utah

COMPONENT COUNTY SOCIETIES

BOX ELDER COUNTY

The meeting of the Box Elder County Medical Society was held on the evening of February 21.

The paper of the evening was by Doctor Luke on the subject of "Common Colds." The doctor pointed out the great economic loss entailed by colds, and stressed the point that many other diseases follow upon the condition commonly called a cold. He emphasized the fact that colds are an infectious condition and are spread from person to person, and often appear in epidemic form. Contagion is greatest in the early stages. Doctor Luke closed with a discussion of the use of preventive vaccines.

The paper was greatly enjoyed by those present, and it was the consensus of opinion in the meeting that it should be printed in the county papers.

R. A. Pearse, *Secretary.*

⁂

SALT LAKE COUNTY

The regular meeting of the Salt Lake County Medical Society was held on Monday evening, February 23, at the Salt Lake General Hospital. Twenty-two members and five visitors were present.

The meeting was called to order at 8:05 o'clock by President F. M. McHugh, and the minutes of the previous meeting read and accepted.

The clinical program was turned over to R. J. Alexander, president of the staff of the Salt Lake General Hospital. The following program was presented:

Acute Bacterial Endocarditis and Quinidin Treatment of Auricular Fibrillation, by Ralph Tandowsky; Partial Gastrectomy for Gastric Ulcer, by R. J. Alexander; Pemphigus Chronica, by W. L. Rich; Empyema, with Optochin Hydrochlorid, by W. H. Rothwell; Preliminary Report of Avertin Anesthesia (by request), by R. O. Johnson; and Bullet in Lumbar Vertebra, by L. C. Snow.

L. L. Daines was unanimously elected an associate member.

J. C. Brown presented a letter from the State Industrial Commission which was sent to the Utah State Medical Association and referred to charges made by members of the medical profession. After discussion by C. L. Shields, M. M. Critchlow, and S. L. Baldwin, S. L. Baldwin suggested that a copy of this letter be sent to every member of the Utah State Medical Association by the secretary of that organization.

* * *

The regular meeting of the Salt Lake County Medical Society was held Monday, March 9, at the Newhouse Hotel. Forty members and one visitor were present.

The meeting was called to order at 8 p. m. by President F. M. McHugh, and the minutes of the previous meeting were read and accepted without correction.

Dr. Wilkie Blood spoke of his recent trip to Europe, with particular reference to European pediatrics, and Dr. Fuller B. Bailey discussed his recent European trip from the standpoint of the internist. These papers were discussed by Doctors J. Z. Brown, W. R. Tyndale, E. M. Neher, and C. C. R. Pugmire.

Doctors C. L. Shields and E. M. Neher reported for the Committee on Medical Economics. Dr. W. L. Rich moved that the committee be continued and be instructed to carry on further study of this matter. Motion seconded and carried.

Dr. J. Z. Brown moved that a letter be sent to the Industrial Commission stating that the society wished to coöperate with this commission in regard to charges made by members of the society. Motion seconded and carried.

Dr. D. G. Edmunds, chairman of the Law Enforcement Committee, read a letter from the American Medical Association indicating their interest in the recent efforts of this committee.

Dr. C. L. Shields moved that the Committee on Public Policy and Legislation meet with the directors of the Congregational Church to lay before them some facts regarding recent quasi-medical lectures. This motion was discussed by Doctors Ray Woolsey, J. A. Phipp, J. Jeidell, D. G. Edmunds, James Kerby, and G. H. Pace. This motion was lost.

Dr. M. M. Critchlow moved that a letter be sent to the Denver and San Francisco medical societies informing them of the contemplated lecture courses to be given by R. I. Shadduck in these cities. Motion seconded and carried.

Dr. Ray Woolsey read a letter from K. S. L. regarding broadcasting fees, and moved that the society accept the offer of a commercial house to announce the new telephone classification of doctors. This motion was lost.

The application of Dr. J. M. Schaffer was read. Dr. Ray Woolsey moved that the application be acted upon in the usual way. Motion seconded and carried.

Barnet E. Bonar, *Secretary.*

⁂

UTAH COUNTY

The regular bimonthly meeting of the Utah County Medical Society was held at the Hotel Roberts on Wednesday evening, February 18, at 6:30 o'clock.

As usual, a very enjoyable supper preceded the business and scientific program.

Dr. T. A. Flood of Salt Lake City read a very entertaining and instructive paper on "Certain Laboratory Procedures that are Essential in Diagnosis."

Charles M. Smith, *Secretary.*

⁂

WEBER COUNTY

The regular meeting of the Weber County Medical Society was held February 26 at the Hotel Bigelow. A banquet preceded the meeting at which President E. P. Mills presided.

Dr. I. K. Cummings, formerly a member of the Hawaii Medical Society, was unanimously voted a member of the Weber County Medical Society.

Dr. M. J. Seidner gave an interesting and instructive report of the various European clinics which he had recently attended.

Conrad H. Jenson, *Secretary.*

Cotton Mather and Smallpox.—History tells us that at divers times and in sundry places scientific endeavor has suffered at the hands of the Church, or at the instigation of members of the Church, either lay or ecclesiastic. In fact, today public health is being menaced by ignorant and self-appointed agents of the divine plan in this particular and important public problem. Tradition has it that up through the mists and clouds of superstition and ignorance, science and scientific men have been the torch bearers of truth, letting in their light on dark places.

An extremely interesting sidelight upon this time-honored tradition is to be found in a recent biography of Benjamin Franklin, by Bernard Fay, a French scholar.

About 1721 A. D. a great discussion was in progress throughout the world: should inoculation be used to combat smallpox. At that time inoculation was known and had been used experimentally in regions of the Near East, and especially in Turkey. There resided in Constantinople Lady Mary Montagu, wife of the English Ambassador to Turkey, who became an inoculation enthusiast, so that in 1719 she brought this discovery to London. Shortly thereafter there appeared in the proceedings of the Royal Scientfic Society of London a study of inoculation as it was practiced in the Levant and, in due course of time, copies found their way to Boston and came into the hands of Mather and Douglas. Mather, the exalted enthusiast, became an immediate partisan, while Douglas, with his solid scientific culture, thought such an idea from such a backward and superstitious community to be absurd.

After two years of almost daily predictions of dire calamity by Mather, the blow fell. In May 1721, eight cases of smallpox appeared in Boston. This grew to an epidemic and the disease raged the entire summer, the entire winter, and on into the spring of 1722. During this time a violent struggle was in progress between the inoculators, headed by Mather, and the anti-inoculators with Douglas and his friends at the helm. Franklin's brother James lent the support of his paper to the radical group, with whom he was in sympathy. This paper was called the New England *Courant.* Benjamin, at that time a boy of sixteen, was setting type for his older brother. Early during the epidemic there appeared a statement on its pages: "The chief design of the New England *Courant* is to oppose the doubtful and dangerous practice of inoculating the smallpox." A club was organized by the so-called liberals, called "The Society of Physicians Anti-Inoculator." The members of this group swore, above all, to abuse Mather. By order of the society, one Dalhonde published a statement in which he affirmed that he had seen this matter tried out in the French Army twenty-five years ago with deplorable results. In every number of the *Courant,* Mather was attacked as well as the ministers and any others who were assisting him to inoculate the terrified inhabitants. Phrases like the following were common: "Most of the ministers are for it and it induces me to think it is from the Devil, for he often makes use of good men as instruments to obtrude his delusions on the world."

To further torment Mather this group attacked his membership in the Royal Scientific Society of London by publishing a list of the members that was posted in public, showing that his name was not upon the official roster. (It was true that he was a member, but before being listed he must appear personally in London to be officially received.) Not only did this accusation against Mather serve to enrage him more than anything else had succeeded in doing, but it influenced many neutrals to the support of the anti group. Finally a bomb was thrown through Mather's window during the early hours of the morning where a sick minister was lodged at the time and about to be inoculated. An insulting note was attached to the bomb: "Dam you, I will inoculate you with this, with a pox to you." Mather was saved because in transit the fuse had fallen out, which bit of good fortune he attributed to the providence of God. His reply to this last and attempted physical attack, aided by a group of churchmen favorable to inoculation, was made by pamphlet: "A vindication of the ministers of Boston from the abuses and scandals lately set upon them." It appears that at about this time government agents became interested and the sounds of battle died away.

The results of inoculation during this epidemic are highly interesting although by no means conclusive. The high point of interest is to note the position of the profession of that date, if so it could be dignified, in this matter. Also the leadership of the inoculators, a Puritan preacher, who in those days would have been quite justified in opposing inoculation upon the ground that the Almighty had sent this scourge upon the people for some good purpose known only to Him and Mather. There were 6045 cases of smallpox. The Mathers inoculated 286 and in this group there were six deaths, a mortality rate of about two per cent. There were 844 deaths in the balance, the group whose interests had been fostered by the anti-inoculators, a mortality rate of about 14 per cent.—Wilfred S. Dennis, M. D., *Colorado Medicine,* September, 1930.

MISCELLANY

Items for the News column must be furnished by the twentieth of the preceding month. Under this department are grouped: News; Medical Economics; Correspondence; Department of Public Health; California Board of Medical Examiners; and Twenty-five Years Ago. For Book Reviews, see index on the front cover, under Miscellany.

NEWS

Sectional Meeting of American College of Surgeons.—The states of California, Nevada, Arizona, Utah, Idaho, Washington, Oregon, and British Columbia will be represented at the sectional meeting of the American College of Surgeons which will be held in Oakland, April 23-26, 1931. All physicians are cordially invited to attend these clinics and meetings. Oliver D. Hamlin, M. D., is general chairman of the local Committee on Arrangements, and Charles Alfred Dukes, M. D., is secretary.

CLINICS

Clinics will be held each morning of the 23rd, 24th, and 25th, from 8 to 11 a. m. in the Samuel Merritt, Highland, Fabiola, Peralta, and Providence hospitals. Full programs of clinics will be distributed from the registration desk in the Hotel Oakland.

CLINICAL ADDRESSES

From 11:30 to 12:30 in Hotel Oakland the following clinical addresses by invited guests will be given:

Thursday, April 23

Ballroom—The Diagnosis and Treatment of Cancer—Burton James Lee, M. D., clinical professor of surgery, Cornell University.

Blue Room—The Significance of the Ocular Functions in Aviation Based Upon our Experience Since the War—Harvey J. Howard, M. D., professor of ophthalmology, Washington University School of Medicine, St. Louis.

Bronchoscopy and Esophagoscopy in Otolaryngology—Louis Henry Clerf, M. D., professor of bronchoscopy and esophagoscopy, Jefferson Medical College, Philadelphia.

Friday, April 24

Ballroom—Surgery of the Hand—Treatment of Infections and Injuries—Allen B. Kanavel, M. D., professor of surgery, Northwestern University Medical School, Chicago.

Blue Room—Diagnosis and Treatment of Cancer of Larynx—Louis Henry Clerf, M. D.

Value of, and the Indications for, Typhoid Vaccine Therapy in Eye Diseases—Harvey J. Howard, M. D.

Saturday, April 25

Ballroom—Surgical Indications in Gastric and Duodenal Ulcers—Harry M. Richter, M. D., professor of surgery, Northwestern University Medical School, Chicago.

Diagnosis and Treatment of Pulmonary Complications Following Tonsillectomy—Louis Henry Clerf, M. D.

Trachoma—Harvey James Howard, M. D.

HOSPITAL CONFERENCES

Thursday, April 23—Municipal Auditorium Theater (2 to 4:30 p. m.).

Friday, April 24—Providence Hospital, Assembly Room, Nurses Home (9:30 to 12 noon).

Saturday, April 25—Highland Hospital (9:30 to 12 noon).

SCIENTIFIC MEETINGS

2 to 5 p. m.—Ballroom

Friday, April 24 and Saturday, April 25—Speakers will be C. Jeff Miller, M. D., New Orleans; Vilray P. Blair, M. D., St. Louis; Philip H. Kreuscher, M. D., Chicago; Burton James Lee, M. D., New York; Frederick A. Besley, M. D., and Harry M. Richter, M. D., Northwestern Medical School.

ROUND TABLE CONFERENCES ON OPHTHALMOLOGY AND OTOLARYNGOLOGY

2 to 5 p. m.—Blue Room

Friday, April 24 and Saturday, April 25—Conferences will be conducted by Harvey J. Howard, M. D., St. Louis, and Louis H. Clerf, M. D., Philadelphia.

EVENING SESSIONS

Dinner—6:30 p. m., Thursday, April 23, ballroom of Hotel Oakland.

Community Health Meeting—8 p. m., Friday, April 24, Municipal Auditorium Theater.

COMMUNITY HEALTH MEETING

Sunday, April 26, 3 p. m.—Greek Theater
Berkeley

Music by University of California band.
Welcome—Robert T. Legge, M. D., Berkeley.
Adding Years to Your Life—Franklin H. Martin, M. D., director general, American College of Surgeons, Chicago.
Modern Surgery Not to Be Feared—C. Jeff Miller, M. D., professor of gynecology, Tulane University of Louisiana School of Medicine, New Orleans.
What You Should Know About Cancer—Burton James Lee, M. D.
Marvels of Modern Medicine—Allen B. Kanavel, M. D.
The Business of Keeping Well—Judge Harold M. Stephens, Berkeley.
To Whom Shall You and I Entrust Our Lives When Sick or Injured—Mark A. Matthews, D. D., pastor of First Presbyterian Church, Seattle.
The Rôle of the Hospital in Human Salvage—Mr. Robert Jolly, superintendent Baptist Hospital, Houston, Texas.

Public Health Meeting to Close Oakland's American College of Surgeon's Sectional Convention.—The Greek Theater, in the grounds of the University of California, will be the scene of a gathering in the interest of public health, unique both in its setting and in the choice of its speakers.

Governor Rolph will open the meeting. Robert Sproul, president of the University of California, and Mr. Robert Jolly, president of the American Hospital Association, are among those who will address this meeting.

Following a three days' intensive program of clinics and papers, to which all physicians, members of the College of Surgeons or not, are invited, the sectional convention of the American College of Surgeons will close its 1931 session with this great gathering on Sunday afternoon of April 26, to which not only physicians, public health workers, nurses, and others interested in the health of the public are invited, but to which all interested citizens will be most cordially welcomed.

The Spring Meeting of the Southern California Medical Association will be held at Hotel Del Coronado on Friday and Saturday, April 10 and 11.

The guest speakers will be Walter Alvarez, M. D., of the Mayo Clinic, who will talk on Friday night and give a dry clinic Saturday morning; Emile Holman, M. D., professor of surgery at Stanford University; and Professor Von Groer of the University of Lemberg, Poland, and Dr. Edgar Mayer, celebrated author of heliotherapy.

Pacific Coast Oto-Ophthalmological Society.—This association will hold its next annual session in Los Angeles, May 28-30, with headquarters at the Hotel Ambassador.

The program this year is being prepared by some of the great teachers of this country and Europe. For the ophthalmologists, Dr. Luther Peter of Philadelphia will have two papers. Dr. Otto Barkan, professor at Stanford University, Dr. Joseph McCool, professor at University of California, and Dr. Frederick Kiehle, professor at University of Oregon, will give papers.

For the otolaryngologists, Dr. R. Clyde Lynch of New Orleans will give three interesting papers, one of which correlates the nose and throat and eye. Dr. Haslinger of Vienna, Dr. Joseph Beck of Chicago, Dr. Harrington Graham and Dr. Wallace Smith of San Francisco, and Dr. George Coates of Philadelphia will give papers.

In addition to these papers from men who are connected with some of the largest teaching institutions, the members of the Board of Otolaryngology and others will conduct the round table discussions, where all will have the opportunity to discuss their problems.

The American Board of Otolaryngology will conduct its examination at the Los Angeles County General Hospital on May 27.

The Western Hospital Association Meeting will be held in Oakland, April 20-23. G. W. Olson, president of the Western Hospital Association, states that this All-Western Hospital Association will bring allied organizations together in one of the greatest meetings of hospital workers ever held in the West.

Four preceding meetings have been held, the organization meeting in May 1927 at Los Angeles. In 1928 the meeting of the Western Hospital merged its interest with the American Hospital Association meeting in San Francisco in August. Portland held the 1929 meeting in October, and a four-day joint session of the British Columbia and Western Hospital Association was held in Vancouver in 1930.

Semiannual Alumni Day at University of California Medical Department.—The semiannual alumni day was held on Tuesday, March 24, 1931, at the University of California Hospital, Parnassus and Third avenues. A morning session of pediatric ward rounds and clinics by Doctor Smythe and a medical conference conducted by Dr. William Kerr was followed by a buffet luncheon in the faculty clubrooms at the hospital. From two to four addresses were given in Toland Hall by Doctors Fletcher B. Taylor, Charles L. Connor, John J. Sampson, Stacey R. Mettier, William J. Kerr, and Chauncey D. Leake.

The morning session clinics, from 8:30 to 11:30 o'clock on neurosurgery and general surgery, were conducted by Dr. Howard C. Naffziger and staff; on gynecology, by Dr. Frank W. Lynch and Dr. Alice Maxwell; on urology, by Dr. Frank Hinman, Dr. Sidney Olsen, and Dr. Clark M. Johnson; on otorhinolaryngology, by Dr. Wallace B. Smith; on ophthalmology, by Dr. Joseph L. McCool; and on orthopedic surgery, by Dr. LeRoy C. Abbott and staff.

Scheduled Appointments for Clinic Patients.—Three years ago the university adopted a new method of handling the thousands of patients who come to its clinics for treatment because they have not sufficient funds to pay regular physicians' fees. Instead of seating them on benches to await their turns, sometimes a matter of hours, it was decided to make definite time appointments for each patient, just as is done in private doctors' offices.

By this system the patient is relieved of the necessity of coming early in the morning and waiting. He or she comes at a definite time and leaves promptly. It had previously been thought that such a system would be unworkable because of the tremendous number of patients cared for. But it has now been found that seven hundred patients can be handled each day with less confusion than under the old system.

But most important of all, careful estimates place the saving of time to these thousands of patients, during the past three years, at 291,000 hours. Computing eight hours to a working day, and six days a week, this means a saving of more than 175 solid years of labor, two and one-half full lifetimes. At the rate of $4 a day for this time, the new system saves more than $145,000 every three years.

This change in procedure is of particular value because the people who come to the out-patient department are either working for very small wages and in need of every cent, or they are out of work and in need of every hour to look for work. From the staff point of view the new system has also been of help in that it gives more time for the location of case records in the files, before the patients arrive.—*University of California Clip Sheet.*

The American Public Health Association announces its sixtieth annual meeting, September 14-17, in Montreal, Quebec, with the Windsor Hotel as headquarters.

The association has not held a meeting in Canada since 1908 and public health workers from the Dominion and from the United States are invited to take advantage of this opportunity for closer contact. The program is being planned with the progress and needs of both countries in mind.

Meetings of four other organizations—American Association of School Physicians, Conference of State Sanitary Engineers, International Society of Medical Officers of Health, and the International Association of Dairy and Milk Inspectors—will take place during or immediately preceding the sessions of the American Public Health Association in Montreal.

For further information address the American Public Health Association, 450 Seventh Avenue, New York, N. Y.

Pacific Coast Surgical Association.—At the last meeting of the Pacific Coast Surgical Association, which was held at Victoria, B. C., February 27 and 28, the following were elected as officers: Rea Smith of Los Angeles, president; Charles M. Fox of San Diego, first vice-president; Raymond E. Watkins of Portland, Oregon, second vice-president; Edgar L. Gilcreest of San Francisco, secretary-treasurer.

Rexwald Brown of Santa Barbara, Philip K. Gilman of San Francisco, J. Tate Mason of Seattle, Wash., A. Aldridge Matthews of Spokane, Wash., and George W. Swift of Seattle, Wash., were elected members of the Council.

The association will meet next year at Coronado the last week-end in February. Clinics will be held in Los Angeles the two days preceding this meeting.

The Fiftieth Semiannual Meeting of the California Northern District Medical Society was held at the Woodland Clinic, Tuesday, March 10.

Fifty doctors attended the morning medical and surgical and nose and throat clinics; and eighty-four attended the luncheon and scientific program after the president's address by George H. Sanderson, M. D., Stockton.

"The Newer Rationale of Acid Milk Feedings" was presented by Francis Scott Smyth, M. D., professor of pediatrics, University of California; "Suggestions from Analysis of the Last Five Years' Experiences with Appendicitis," by Fred R. Fairchild, M. D., Woodland Clinic; and "Recent Developments in the Treatment of Poliomyelitis" (moving pictures), by Edwin S. Schultze, M. D., professor of bacteriology, Stanford University.

The next meeting will be held in Sacramento the second Tuesday in October, it being customary to have two meetings a year, with the fall meeting always in that city.

MUCH IN LITTLE*

Headache, choked discs, and vomiting mean brain tumor.

Exophthalmos, tachycardia, and tremor mean exophthalmic hyperthyroidism.

Hemoptysis means tuberculosis until proven otherwise. Heart failure a frequent cause.

Hematuria means malignancy until proven otherwise. Calculus a frequent cause.

"T. T. M. M. and I" (typhoid, tuberculosis, measles, malaria, and influenza) give no leukocytosis.

Suspect gall-stones in the "4 F" females (fair, fat, forty, and gaseous).

The "old man's disease" (prostatism) must be suspected in the fifties. Examine for urinary retention.

Hemorrhoidectomy is a malignant practice when hepatic cirrhosis with portal back-up is present.

Make thorough examinations of all patients, because:

To have a consultation show one
A blue line on the gum,
Or a fragile mass in the rectum,
Makes the family doctor glum.

TWENTY-FIVE YEARS AGO†

EXCERPTS FROM OUR STATE MEDICAL JOURNAL

Vol. IV, No. 4, April 1906

From some editorial notes:

The Big Thieves.—That the mind of the phyicians is without commercial bent, is so well known as scarcely to require restatement; for, in the words of the "sure thing" operator, doctors and preachers are "good things." As a result of this unfortunate lack of business ability, physicians always have been and doubtless always will be imposed upon by those gentry for whom "commercialism" is the first and the last word, and who know not the meaning of "professionalism. . . . "

* * *

Let Us Help.—Other things being equal, it is no less than right that we should lend the weight of our influence and give our patronage to those manufacturers who indicate a desire and an intention to help us in the present fight against fraud, secrecy, and graft in the nostrum business. . . .

* * *

The Next Legislature.—There are some bills which we may safely assume will be introduced into the next legislature, and we might as well think them over and begin to prepare for them. . . .

From a Notice of the 1906 Annual Session:

The next annual meeting of the state society will be held in San Francisco, the entire week, beginning Tuesday morning, April 17, 1906. . . .

. . . The committee would further announce that the following time limit has been placed on all contributions: orations, thirty minutes; scientific papers, fifteen minutes; discussions, five minutes. A bell will be rung in each case, one minute before the time expires.

. . . Members finding subjects of interest in the papers enumerated below will please send their names and choice of subjects to the chairman of the committee, that they may be called upon to enter into the discussions. . . .

From an article on "The Motor Complications of Herpes Zoster" by Albion Walter Hewlett, M.D., San Francisco:

The eruption of herpes zoster, which consists of vesicles upon inflamed bases, is characterized mainly by its limitation to the portion of skin that is supplied by the affected spinal ganglia. Head distinguishes two forms of zoster. The first is merely a symptom of some more general nervous disease and it is called, therefore, symptomatic zoster. The second is a disease *sui generis* and has been termed acute specific zoster. . . .

From an article on "The Demonstration of Dilatations of the Descending Thoracic Aorta" by Charles Miner Cooper, M. D.:

The descending thoracic aorta is the direct continuation of the aortic arch, and it traverses the posterior mediastinum. It begins at the lower border of the fourth dorsal vertebra and ends by becoming the abdominal aorta at the level of the twelfth dorsal vertebra. At its commencement it lies to the left of the middle line, but as it proceeds downward it inclines inward, approaching a mesial position at its termination. . . .

From an article on "Pityriasis Rosea" by Douglass W. Montgomery, M.D., San Francisco:

In pityriasis rosea, as usually met with, the patient applies for advice on account of a rosy, blotchy rash, well distributed over the body. The rash consists of slightly elevated, light red blotches, usually about the size of those seen in measles or in the roseola of syphilis. . . .

From an article on "The Pathology and Treatment of Tetanus" by T. C. McCleave, M.D., Berkeley, Cal.:

A year ago, in discussing a paper on tetanus before this Association, I called attention to certain newly discovered facts regarding the manner in which the tetanus toxin reaches the spinal cord, and I stated at that time that these discoveries would no doubt lead to improvements in the methods of treatment of this dreadful affection. . . .

From an article on "The Requisite Laboratory Equipment for the General Practitioner" by Ray L. Wilbur, M.D., Stanford University:

In these days of the multiplicity of clinical instruments and clinical tests, it becomes of some importance to the general physician to know how much actual equipment is necessary for laboratory work and how far his time and experience will let him go before he needs to call for the services of a laboratory expert. In the present-day medical education enough stress is laid upon all forms of laboratory work so that the average graduate is well equipped mentally for all the ordinary tests. . . .

---

* Members of the California, Nevada, and Utah Medical Associations are invited to contribute to this column of aphorisms, which will appear from time to time in California and Western Medicine, as sufficient copy accumulates. The aphorisms in this issue were sent in by John William Shuman, M. D., Los Angeles.

† This column strives to mirror the work and aims of colleagues who bore the brunt of state society work some twenty-five years ago. It is hoped that such presentation will be of interest to both old and recent members.

From an article on "Gastroenteric Autointoxication—Its Recognition and Significance, and Its Relation to Arterial Hypertension" by W. A. Briggs, M.D., Sacramento:

The physiologic and the pathologic problems of digestion and of the digestive tract are obviously fundamental. Not only are they fundamental, but, both from a theoretical and from a practical viewpoint, they are anthropologically universal. They implicate every tissue and every function—nay, more, the very destiny of nations. Many a philosophy is tinged with black bile, and many a world policy is implacably determined by the colon bacillus. . . .

From minutes of the meeting of the San Francisco County Medical Society:

Meeting of the Directors of the County Medical Society.—Meeting called to order at 8:20 p. m., February 13, 1906, President Terry in the chair. Those present were: Doctors W. I. Terry, D'Arcy Power, J. H. Barbat, P. K. Brown, C. M. Cooper, D. Tait, W. S. Thorne, F. B. Carpenter, William Ophüls, George Blumer, Henry Gibbons, Jr., H. Morrow, C. Levison, H. M. Sherman, P. M. Jones, George Evans. . . .

Dr. P. M. Jones reported for the committee appointed to consider the advisability of having more frequent meetings as follows: . . .

Third: That arrangements be made for meetings to which prominent attorneys, judges, etc., be invited, and also other meetings to which representatives of the ministerial profession be invited. . . .

Doctor Jones moved that the secretary be instructed to purchase a scrap-book and in that scrapbook there be pasted any clippings from the daily papers referring to any of the members of this society. A space is to be left after each clipping in which the member involved can write his defense. This scrap-book to be placed in the library for the inspection of the members. Motion carried. . . .

DEPARTMENT OF PUBLIC HEALTH

By Giles S. Porter, M. D., *Director*

Full-Time Health Units Growing.—There are now fourteen counties in California each of which has its health department organized upon a full-time basis, with a trained health officer in charge. These counties are: Contra Costa, Yolo, San Francisco, San Joaquin, Stanislaus, Madera, Monterey, San Luis Obispo, Santa Barbara, Los Angeles, Orange, San Diego, Riverside, and Imperial.

There are extensive activities launched in both Kern and Ventura counties for the formation of county health units in each of these counties. In Ventura County, a committee of five residents has compiled a voluminous report of its investigations into the advisability of establishing a full-time health unit in that county. This committee was appointed in April 1930, and since that time visits have been made to San Luis Obispo, Monterey, San Joaquin, Fresno, and Tulare counties. As a result of this investigation, the committee recommends that such a health unit be organized in Ventura County. The findings of the committee are summarized as follows:

FINDINGS

1. The success or failure of a public health department depends primarily on its head.

2. The head of the department should have full responsibility in order that success or failure may be definitely fixed.

3. Excepting, perhaps, the very few populous and wealthy counties, public welfare can be better served by a county-wide health organization, whether it be unit or district organization, than by a number of local organizations that lack coördination.

FULL-TIME OFFICER

4. Except in counties of limited population and wealth, health service should have full-time health officer with special qualifications for the work.

5. In many counties, among them Ventura, an efficient county-wide health organization can be set up that will cost very little more than the total cost of present inefficient set-ups.

6. The head of the department and the various employees should not be subjected to irrelevant political influences.

7. There are certain inherent elements in each which make it very difficult for health departments and school departments to work in complete harmony. These difficulties can be reduced to a minimum, and practically eliminated, when the two departments get together and study their problems with an earnest desire to solve them fairly.

8. There seems to be no disposition in any of the counties that have set up fairly efficient health departments to dispense with them even though the service is still limited.

MEETS APPROVAL

9. Heads of health departments whom we have consulted favor the district plan of organization.

10. The law permits a maximum tax levy of 15 cents on the hundred dollars under the district plan.

After checking over the cost of present health service in Ventura County we are of the firm opinion that a tax not to exceed five and one-half cents on the hundred dollars would be sufficient for the successful operation of a health district for the county.

The amount raised by this tax would be less than one cent more on the hundred dollars than is now being paid out by the county, the cities, and the school districts. Instead of health service covering but a limited field we would have comprehensive, unified, and efficient service for the entire county.

Dr. G. S. Porter, Director of Department of Public Health.—Governor Rolph has appointed Dr. Giles S. Porter of Los Angeles as director of the State Department of Public Health and he assumed the duties of the office on January 29. He succeeds Dr. Walter M. Dickie, who has been the administrative head of the department since August 1920. Doctor Porter has been assistant health officer of Los Angeles for many years, having first become associated with the Los Angeles City Health Department in 1920. He served in the Medical Corps of the United States Army, 1918-1919. He came to California in 1914, and before that time he practiced medicine in Arkansas, where he was a member of the State Board of Medical Examiners.

Imperial County Protects Against Diphtheria.—Under date of January 19, Dr. Warren F. Fox, health officer of Imperial County, states that a total of 1221 immunizations against diphtheria have been given by the county health department. He stated further, that by the end of the month all of the rural schools will have been visited by the health officer and nurse.

CALIFORNIA BOARD OF MEDICAL EXAMINERS

By Charles B. Pinkham, M. D.
Secretary of the Board

News Items, April 1931

"Attorney General U. S. Webb has given an opinion to Governor Rolph to the effect that the State Board of Chiropractic Examiners is a legally constituted body. This sets at rest rumors that the board was illegally constituted and that chiropractors licensed since 1923 held their licenses illegally" (Sacramento *Bee,* February 25, 1931).

"Licensing and regulation of Christian healers and practitioners is provided in a bill by Senator Harry E. Carter of Wilmington. . . . Each applicant would have to hold credentials from an incorporated church, school, college, institution or university that teaches Christian healing 'indicating that said applicant is duly qualified as a Christian healer or practitioner to relieve the sick and afflicted whether spiritually . . . or physically by prayer and imposition of hands, anointing with oil' . . . " (Hollywood *News,* February 4, 1931).

The records show that on January 30, 1930, Buren L. Corley, D. C. (Corley Health Institute, San Francisco), pleaded guilty in San Francisco to a charge of violation of the Medical Practice Act and was sentenced to serve six months in the county jail, suspended on condition that he discontinue further violation. "It was agreed that he would in the future in all radio talks, on his signs, and elsewhere, comply with the law and designate himself as he should be, *i. e.,* a chiropractor."

According to reports, Dr. D. M. Angus, licensed in California many years ago, and who, the record shows, pleaded guilty to a charge of abortion in the State of Washington and was given a six months' suspended sentence on May 15, 1929, is again reported to be held in jail for investigation in connection with an alleged illegal operation.

"Dr. F. A. Bonaventure, Santa Rosa physician, must return to Columbus, Ohio, to answer to a federal indictment charging violation of the Harrison Narcotic Law, United States Commissioner Ernest E. Williams decided yesterday" (San Francisco *Examiner,* February 20, 1930).

"After five minutes of deliberation, a jury in United States District Judge Paul J. McCormick's court yesterday found Dr. F. E. Cramer, Hawthorne physician, guilty of violation of federal narcotic laws. Cramer was charged with selling fifty grains of morphin to an addict. Under the law the maximum penalty of five years' imprisonment, or a fine of $2000, or both, may be imposed" (Los Angeles *Examiner,* February 27, 1931).

Special Agent Davidson reported that on March 25 Harold E. Frantz, operating the "American Herb Company," pleaded guilty in Stockton to a violation of Section 17 of the Medical Practice Act and was given a suspended sentence with a warning that he was not to again engage in the sale of herbs in violation of the law.

"Dr. William C. Fiske, seventy, of Hermosa Beach must abstain from the practice of medicine as a condition of being given ten years' probation by Superior Judge Charles W. Fricke on a manslaughter charge, to which the physician pleaded guilty after the death of Vera Nelson, nineteen, from an illegal operation" (Los Angeles *Illustrated Daily News,* February 25, 1931).

"Dr. H. M. Every, Oakland physician, has been appointed assistant physician at San Quentin prison to succeed Dr. E. Edwin Garfinkle, who recently resigned . . . (Oakland *Tribune,* February 28, 1931).

The latest victim of the eyesight swindlers is reported as S. P. Lindgren, Van Nuys, who recently reported to the police that he had parted with $250 following the old radium drop swindle, of which the Board of Medical Examiners has warned the people of this state on many occasions.

"Dr. Harry Frost of New York, confessed representative of an 'eastern diploma mill,' pleaded guilty in city court today to illegal sale of a chiropractic diploma and was sentenced to one year in the city work house. Frost was arrested yesterday through the efforts of President John Stevens, who posed as an art metal salesman and made down payments on chiropractic and medical diplomas. . . . Fictitious diplomas were reported sold by Frost for amounts ranging from $500 to $1000" (United Press dispatch, dated St. Louis, January 24; printed in the Berkeley *Gazette,* January 24, 1931).

"Arthur Jay Green, forty-one, maintaining offices at 666 Post Street, was arrested by J. W. Davidson, inspector of the State Board of Medical Examiners, and charged with violation of the State Medical Practice Act. Green is said to have used agents to dispose of medicines" (San Francisco *Examiner,* February 10, 1931).

C. E. Hilton, reported as distributing business cards reading "American School of Pedal Ostectopy" and circulating newspaper advertisements reading "Foot Specialist, Free Schooling, Diploma . . . ," on March 5, 1931, was found guilty by a Los Angeles jury of violation of the Medical Practice Act and was sentenced to pay a fine of $300 or serve six months in the city jail, sentence being suspended on condition that he does not use the prefix "Dr." in any sign or advertisement in connection with his business.

Special Agent Davidson reports that Frank Lee, Korean herbalist, associated with Frank and Wong, herb specialists, Berkeley, on March 10 was found guilty in a Berkeley court of violation of the Medical Practice Act and was sentenced to pay a fine of $500 or serve one day in the county jail of Alameda County for each $1 not paid, not to exceed 180 days in prison. The report relates, "This man has been associated with W. Y. Wong, whom we recently prosecuted successfully in Oakland."

According to reports, H. Lynn Staley, licensed Los Angeles chiropractor, advertising, "Dr. H. Lynn Staley, birth marks, blemishes, skin diseases, 1776 Griffith Park Boulevard, Los Angeles, California," without announcing himself as a chiropractor, and also reported as operating a concern known as the Hollywood Cell-oids Company, alleged to be "attempting to sell through the use of the United States mails some sort of mineral salts which he claims 'has been successful in cancer' . . . " was on February 13, 1931, sentenced to pay a fine of $200 or serve sixty days in the city jail on a charge of violation of the Medical Practice Act. The fine was paid.

An individual giving the name of Harry Turner, whose claim that he is a graduate of the University of Oregon Medical School in 1913 and licensed in Oregon in 1914, was found false, was recently confined in the city and county jail of San Francisco on a charge of issuing bad checks. He claimed to have been born in Juneau, Alaska, September 11, 1889, and that his Oregon license was revoked, following a conviction of having performed an illegal operation. The records, however, show such a license never existed.

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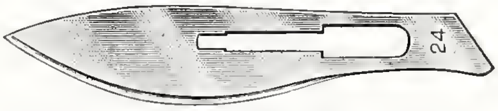

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APPROVED CLINICAL LABORATORIES

Excerpts from American Medical Association Essentials for an Approved Clinical Laboratory

DEFINITION

" * * A clinical pathologic laboratory is an institution organized for the practical application of one or more of the fundamental sciences by the use of specialized apparatus, equipment and methods, for for the purpose of ascertaining the presence, nature, source and progress of disease in the human body."*

"Only those clinical laboratories in which the space, equipment, finances, management, personnel and records are such as will insure honest, efficient and accurate work may expect to be listed as approved."

"The housing and equipment should be sufficient to permit all essential technical procedures to be properly carried out."

THE DIRECTOR

"The director of an approved clinical laboratory should be a graduate of an acceptable college or university of recognized standing, indicating proper educational attainments. He shall have specialized in clinical pathology, bacteriology, pathology, chemistry or other allied subjects, for at least three years. He must be a man of good standing in his profession."

"The director shall be on full time, or have definite hours of attendance, devoting the major part of his time to the supervision of the laboratory work."

"The director may make diagnoses only when he is a licensed graduate of medicine, has specialized in clinical pathology for at least three years, is reasonably familiar with the manifestation of disease in the patient, and knows laboratory work sufficiently well to direct and supervise reports."

"The director may have assistants, responsible to him. All their reports. bacteriologic, hematologic, biochemical, serologic and pathologic should be made to the director."

RECORDS

"Indexed records of all examinations should be kept. Every specimen submitted to the laboratory should have appended pertinent clinical data."

PUBLICITY

"Publicity of an approved laboratory should be directed only to physicians either through bulletins or through recognized technical journals, and should be limited to statements of fact, as the name, address, telephone number, names and titles of the director, and other responsible personnel, fields of work covered, office hours, directions for sending specimens, etc., and should not contain misleading statements. Only the names of those rendering regular service to the laboratory should appear on letterheads or other form of publicity."

FEES

" * * There should be no dividing of fees or rebating between the laboratory or its director and any physician, corporate body or group. * * *"*

The following laboratories in California are among those approved by the Council on Medical Education and Hospitals of the American Medical Association:

Clinical Laboratory of Drs. W. V. Brem, A. H. Zeiler and R. W. Hammack, Pacific Mutual Building, Los Angeles, California.

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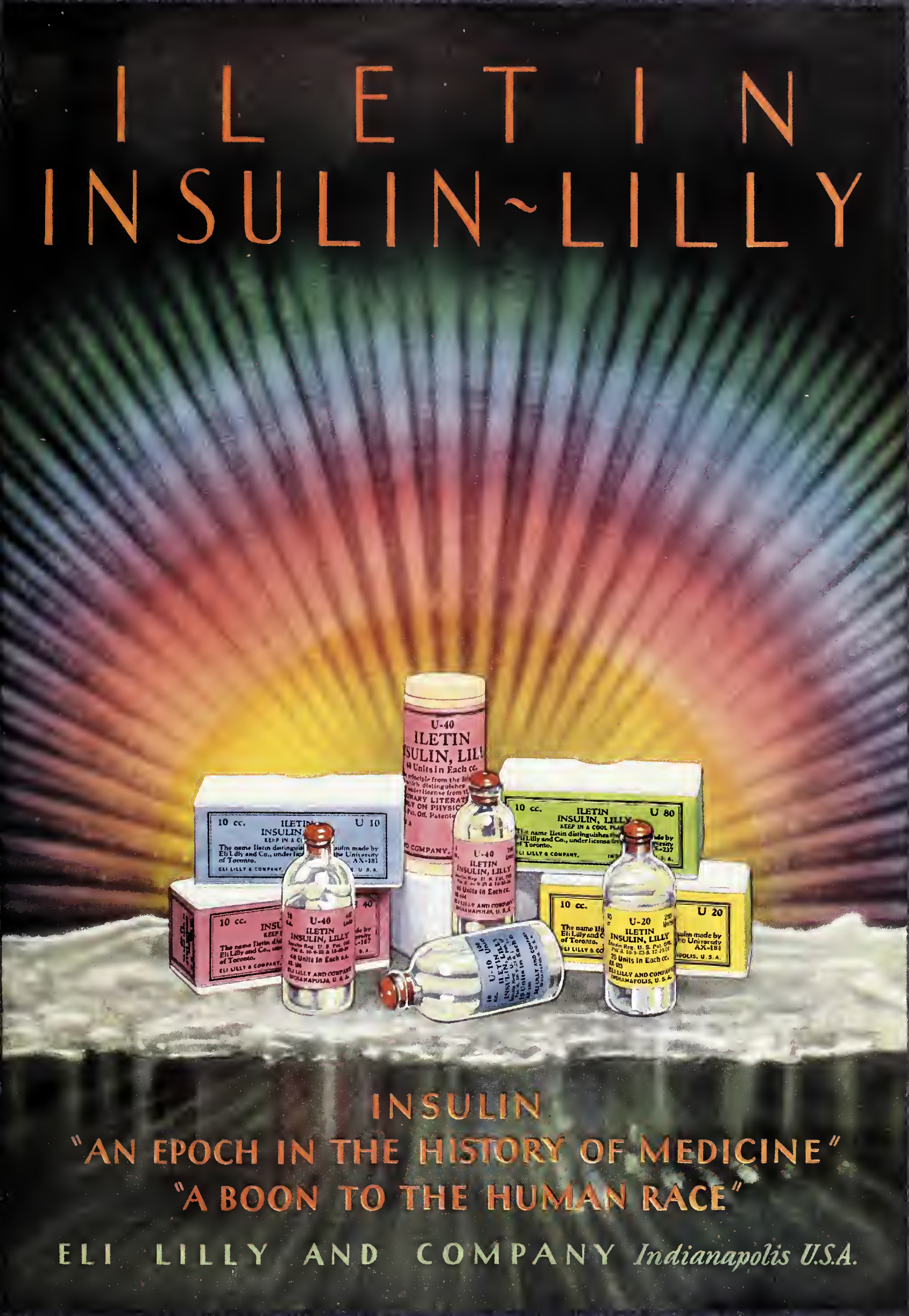

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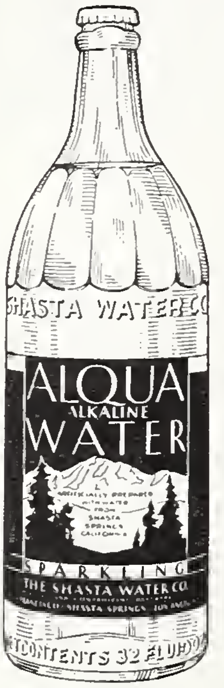

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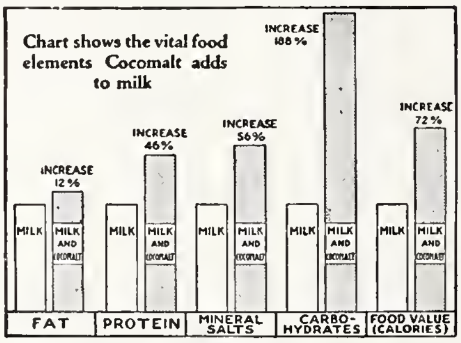

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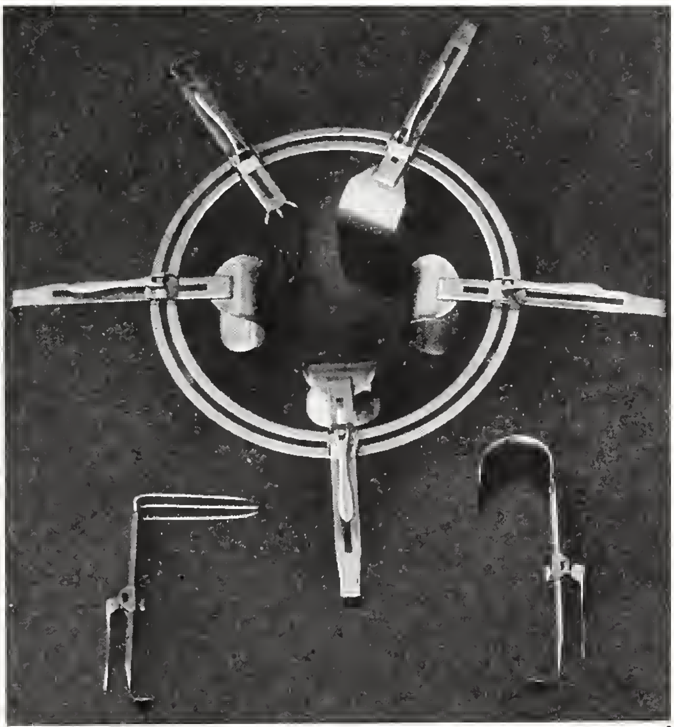

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TRUTH ABOUT MEDICINES

(Continued from Page 26)

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Limitations of Bacteriophage Therapy.—Recent investigations suggest that future therapy with bacteriophage preparations must be limited to certain definite anatomic types of infection. The deductions drawn are that no therapeutic effects whatever are predictable for bacteriophage except under conditions in which local extrabacterial bacteriophage concentration can be raised and maintained. From this it appears that bacteriophage therapy would be a predictable disappointment in erysipelas, furunculosis, pneumonia, pyelitis, cellulitis and bacteremia, and in cystitis except by concentrated irrigation. The use of this therapy would thus be limited to such closed organs as the intestine and to well encapsulated pus cavities.—*Journal of the American Medical Association*, February 28, 1931, p. 693.

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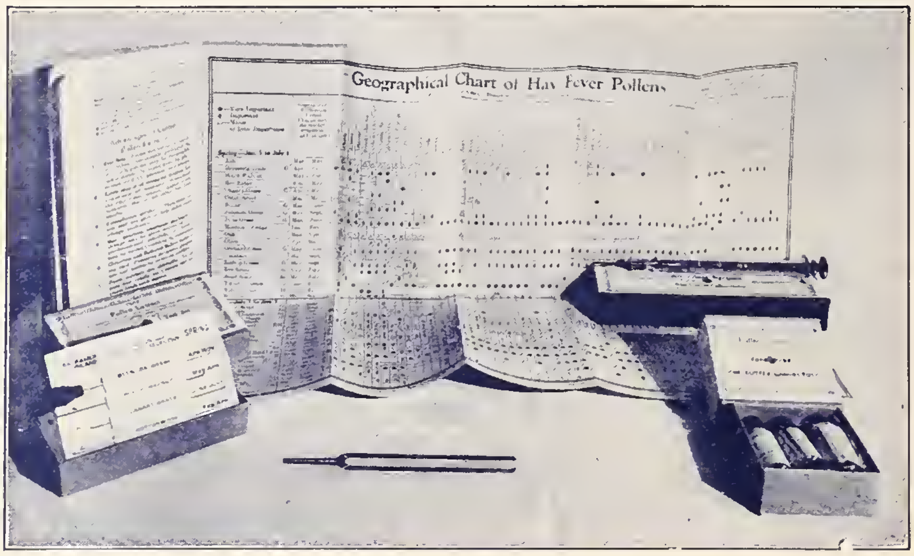

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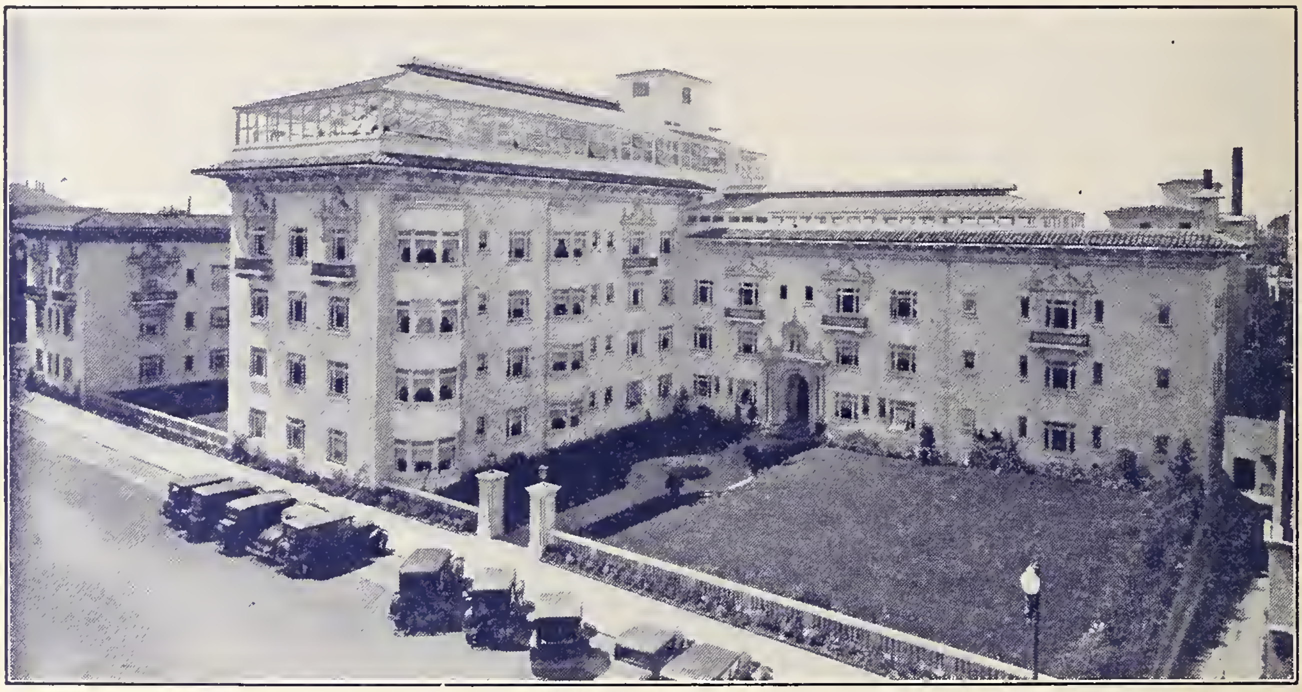

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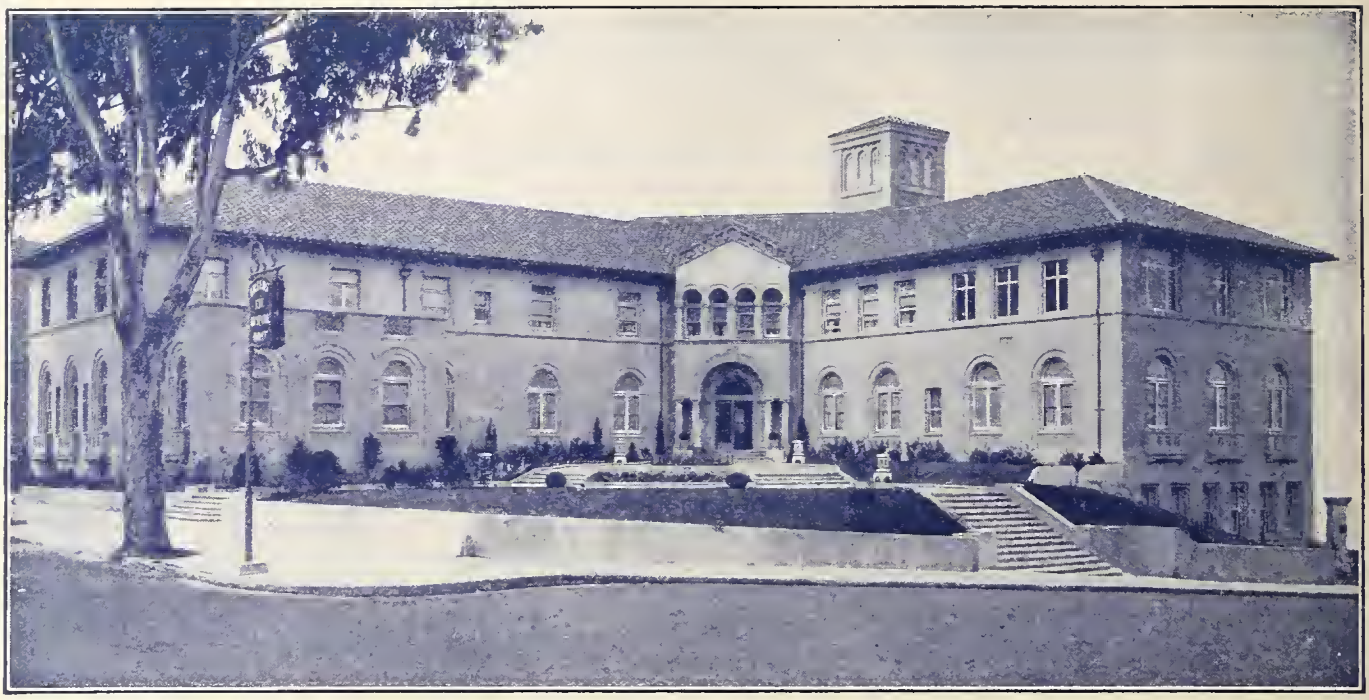

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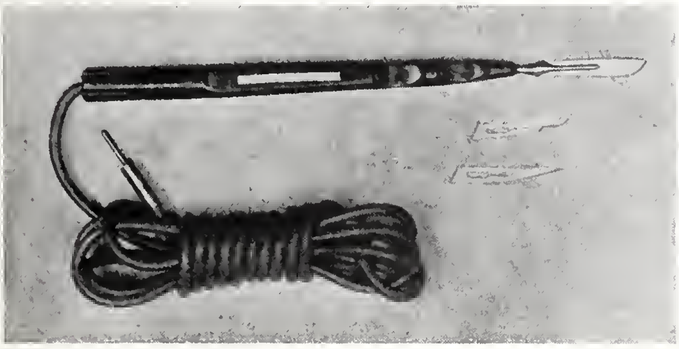

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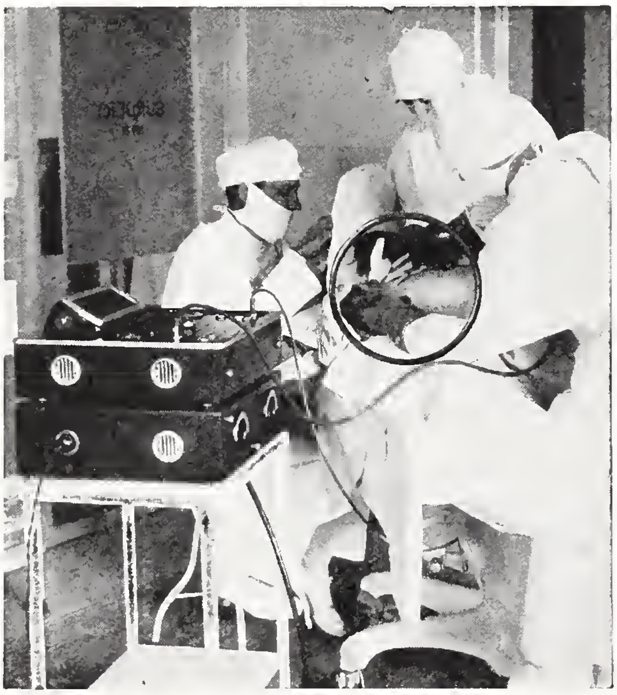

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In a recent article by Hoobler, entitled, "Use of Vitamin B in Diets of Infants," (Jl. A. M. A., Feb. 28, 1931, page 676) he says: "An important research conducted by Harris and Moore (Hypervitaminoses and Vitamin Balance: An Instance of Vitamin Balance, Biochem, J. 23:1114) showed that there exists a definite balance among Vitamins E and G; by greatly increasing Vitamins A and D in diets, an otherwise adequate amount of Vitamin B is made inadequate, leading to death of animals. One should be careful not to overdose with cod liver oil and viosterol unless at the same time an increasing quantity of Vitamin B is also added to the diet."

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BOOK REVIEWS

List of Books Received

BOOKS RECEIVED

Pocket Cyclopedia of Nursing. Edited by R. J. E. Scott, M. A., B. C. L., M. D., Fellow of the New York Academy of Medicine; formerly Attending Physician to the Demilt Dispensary; formerly Attending Physician to the Bellevue Dispensary. Third Edition, completely revised and reset. Leather. Pp. 723. Price, $2.90. New York: The Macmillan Company, 1931.

White House Conference 1930. Addresses and Abstracts of Committee Reports. White House Conference on Child Health and Protection called by President Hoover. Paper. Pp. 365. New York: The Century Company, 1931.

The American Journal of Cancer. A Continuation of the Journal of Cancer Research. Vol. XV. April, 1931. No. 2. Editor, Francis Carter Wood, The Institute of Cancer Research of Columbia University. Paper. Pp. 1234. New York: The Institute of Cancer Research of Columbia University.

The Diagnosis and Treatment of Brain Tumors. By Ernest Sachs, A. B., M. D., Professor of Clinical Neurological Surgery, Washington University School of Medicine, St. Louis. Cloth. Pp. 396, with two hundred and twenty-four illustrations, including ten in colors. Price, $10.00. St. Louis: The C. V. Mosby Company, 1931.

Crippled Children. Their Treatment and Orthopedic Nursing. By Earl D. McBride, B. S., M. D., F. A. C. S., Instructor in Orthopedic Surgery, University of Oklahoma, School of Medicine; Attending Orthopedic Surgeon to St. Anthony Hospital. Cloth. Pp. 280, with one hundred and fifty-nine illustrations. Price, $3.50. St. Louis: The C. V. Mosby Company, 1931.

BOOK REVIEWS

The Treatment of Children's Diseases: With Special Formulas and Drugs for Childhood, and a Short Diagnostic Summary of Each Clinical picture. By Franz Alexander Lust. Authorized translation of the sixth German ed. with additions by Sander A. Levinsohn. Pp. 513. Philadelphia and London, J. B. Lippincott Company, 1930.

This book differs from the usual textbook in that emphasis is placed on treatment rather than diagnosis, almost half of the book being devoted to therapeutic procedures, formulae and prescriptions. The translator

(Continued on Page 14)

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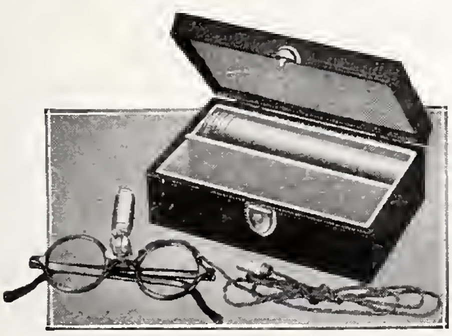

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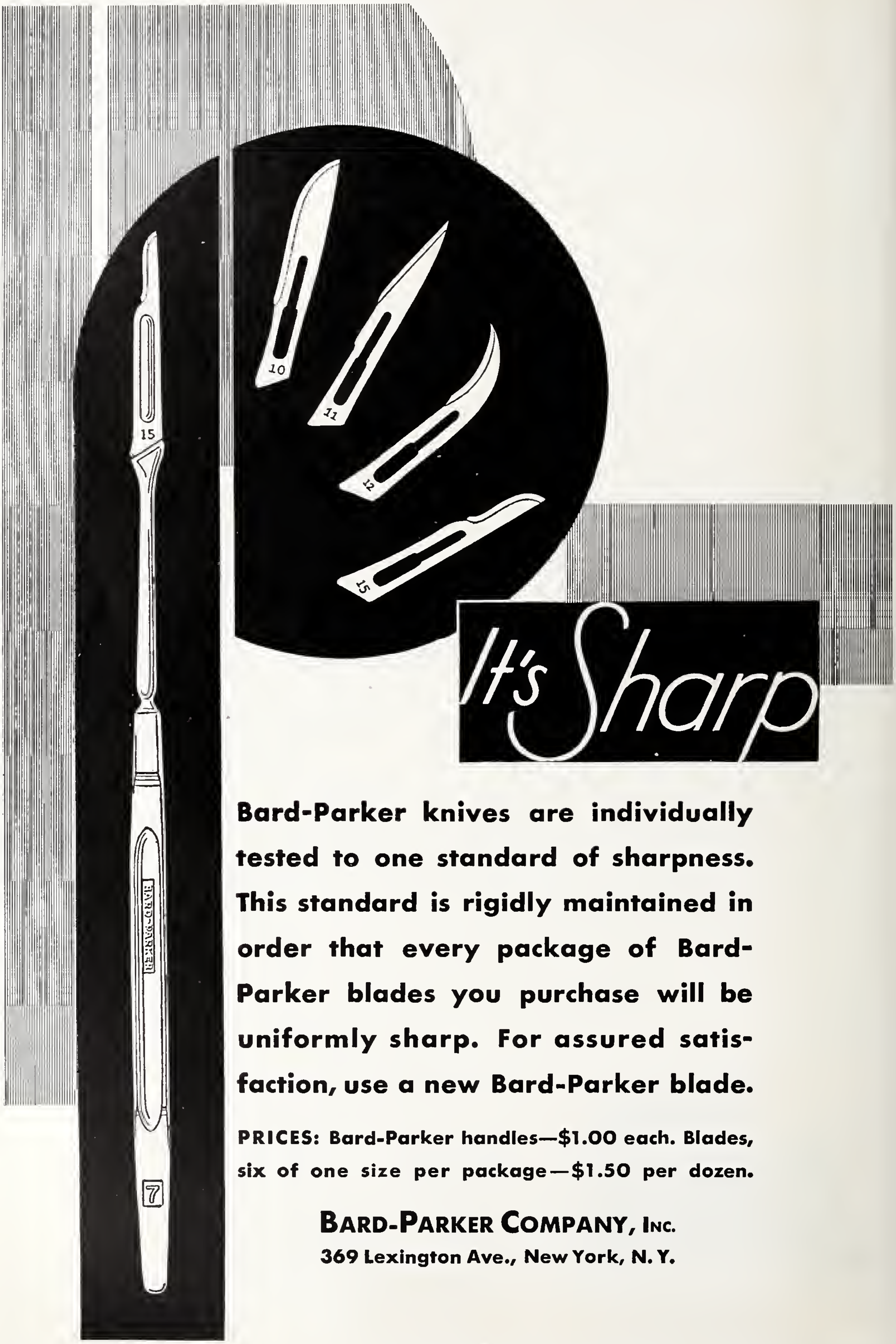

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BOOK REVIEWS

(Continued from Page 11)

has added his own notes and opinions in many places in order to make the text conform more with accepted American ideas, but in spite of this there is much in the book that is at variance with our teachings. However, it has much valuable material and will serve as a good reference book. H. E. T.

Practical Radiation Therapy. By Ira I. Kaplan, with a special chapter on Applied X-ray Physics by Carl B. Bracstrup. Pp. 354. Illustrated. Philadelphia and London: W. B. Saunders Company, 1931.

The fact that there has been no adequate book in the English language on radiation therapy is prosumptive evidence of the difficulty involved in writing one; and this book proves the point. It seems to the reviewer to be almost valueless from all standpoints—it makes no serious attempts to lay down the essential physical principles on which therapy should be based—it fails to discuss or even to point out the essential biological data, knowledge of which is essential in planning intelligent treatment—it does not even mention the existence of saturation dose theories which is an unpardonable deficiency in any book less than ten years old—its specific recommendations for therapy are frequently rather dangerous and nearly always incomplete, if not misleading. Any radio-therapist, to cite only two examples, who seriously recommends a treatment distance of 30 cms. in so-called deep therapy and who is apparently ignorant of the uniformly satisfactory effect of x-ray on giant-cell tumors of bone is hardly qualified to lead the beginner or to assist the adept. J. M. R.

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(Abstracts from reports of Council on Pharmacy and Chemistry of the American Medical Association)

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(Continued on Page 18)

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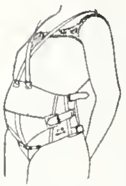
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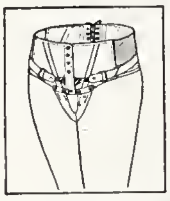
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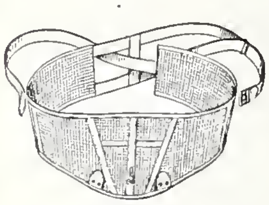
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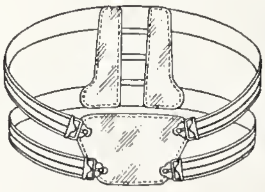
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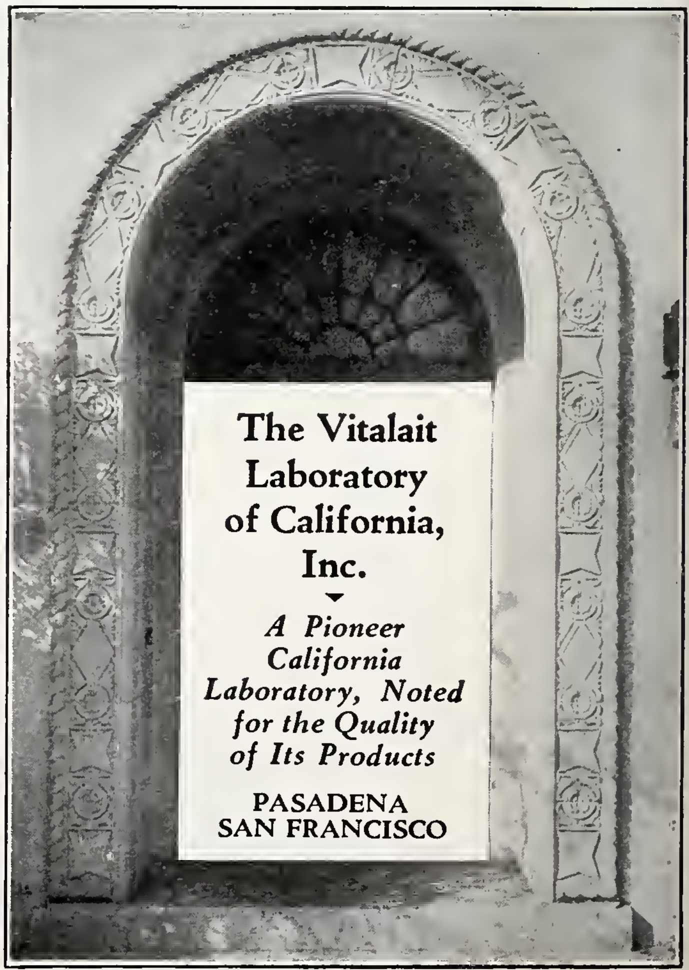
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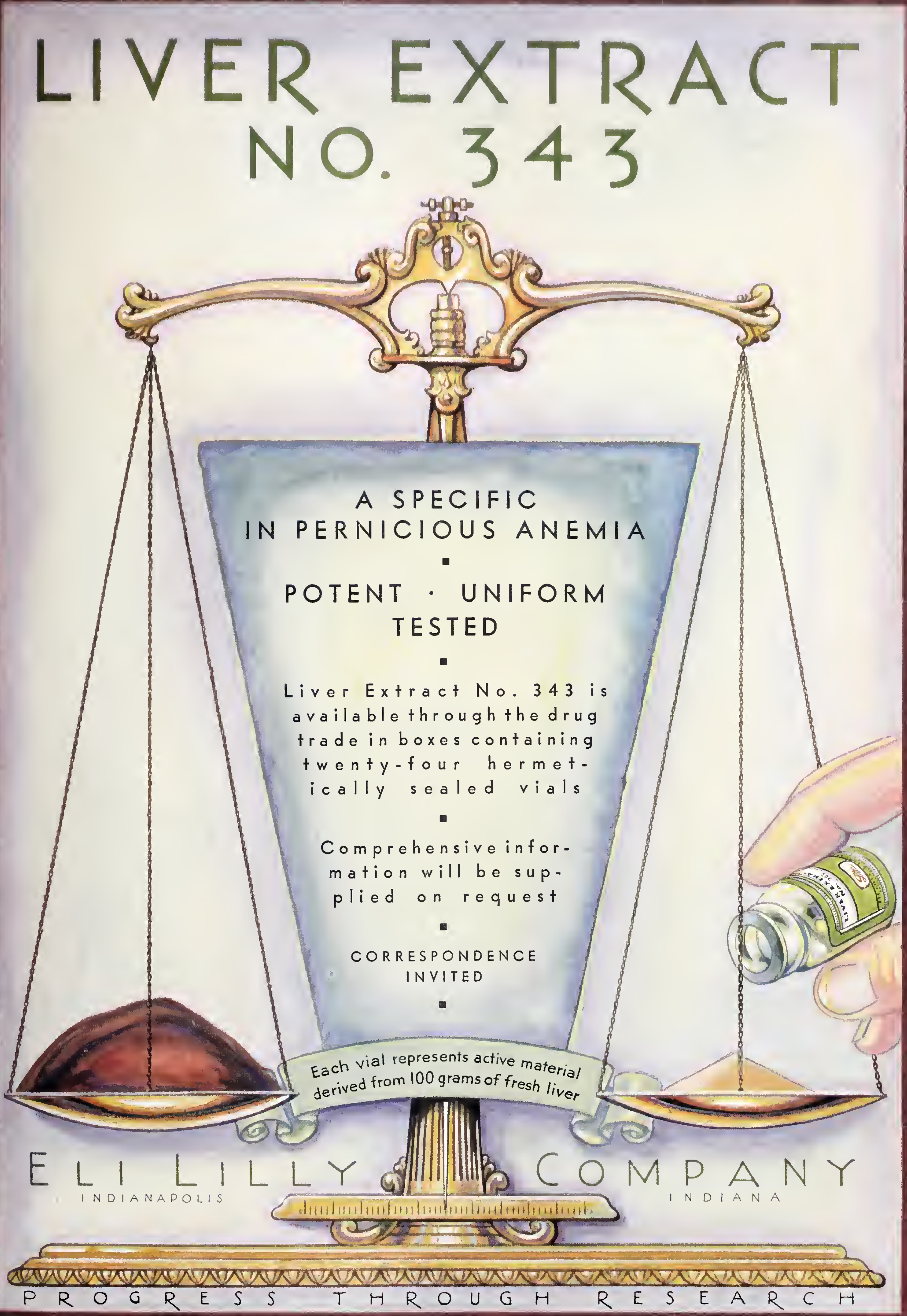

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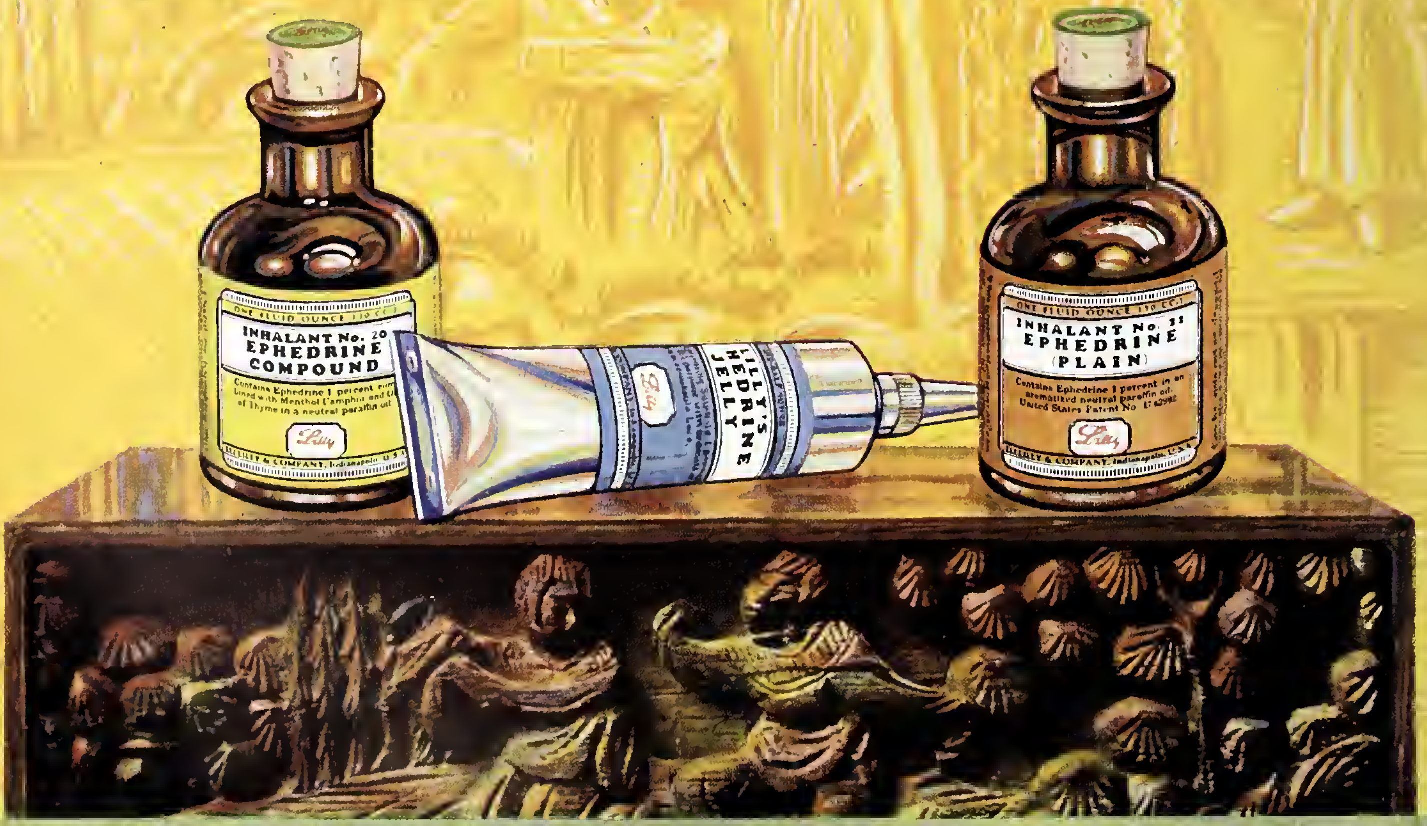
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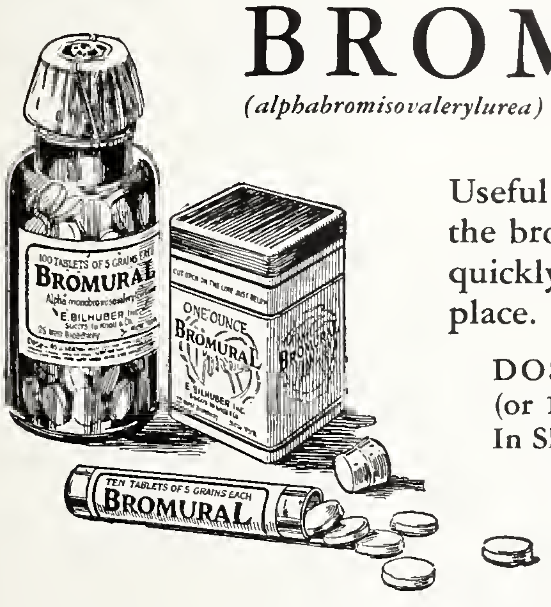
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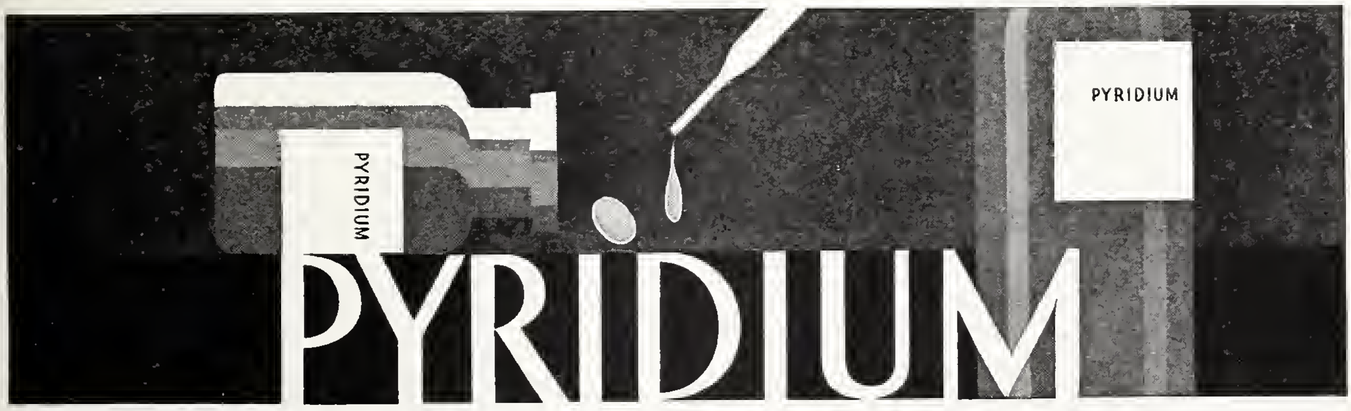
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TRUTH ABOUT MEDICINES

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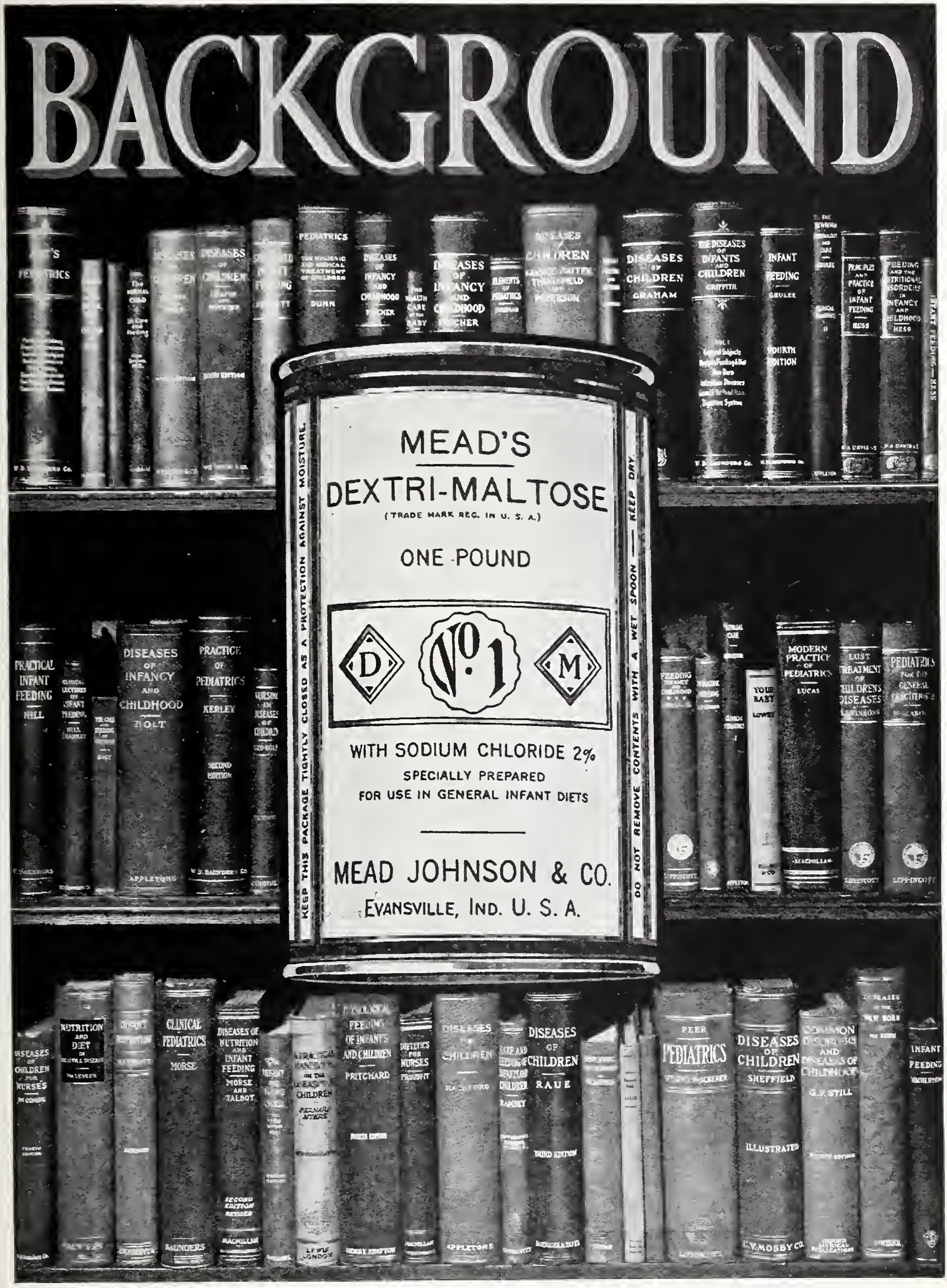
Iopax. — Sodium 2-oxo-5-iodopyridin-N-acetate. Iopax contains from 42 to 43.5 per cent iodin. It is proposed for use intravenously in radiographic visualization of the urinary tract. It is also used for injection into the renal pelvis through the ureteral catheter for pyelography. The maximum intravenous dose is 30 grams of the powder dissolved in 100 cubic centimeters of redistilled water. Schering Corporation, New York.—*Journal of the American Medical Association,* March 14, 1931, p. 859.

(Continued on Page 20)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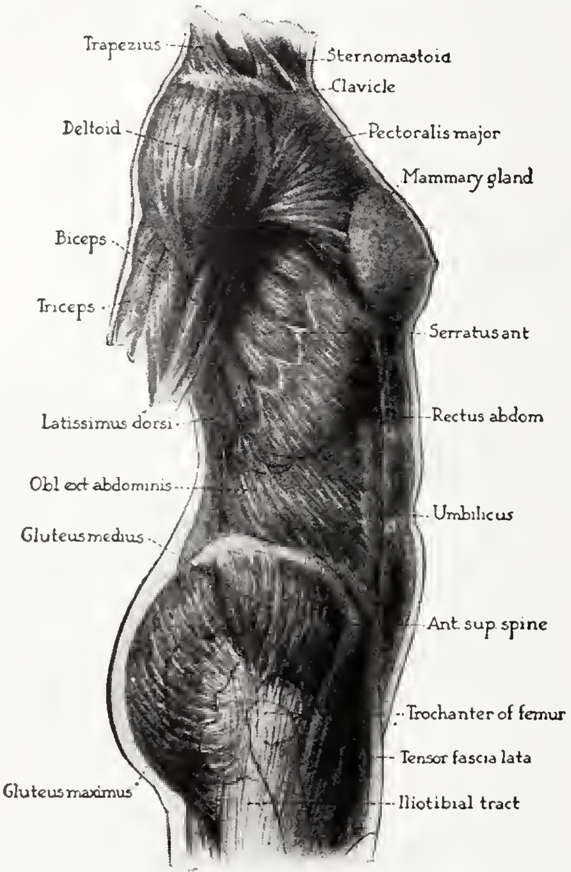
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TRUTH ABOUT MEDICINES

(Continued from Page 18)

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(Continued on Page 22)

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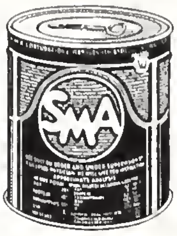

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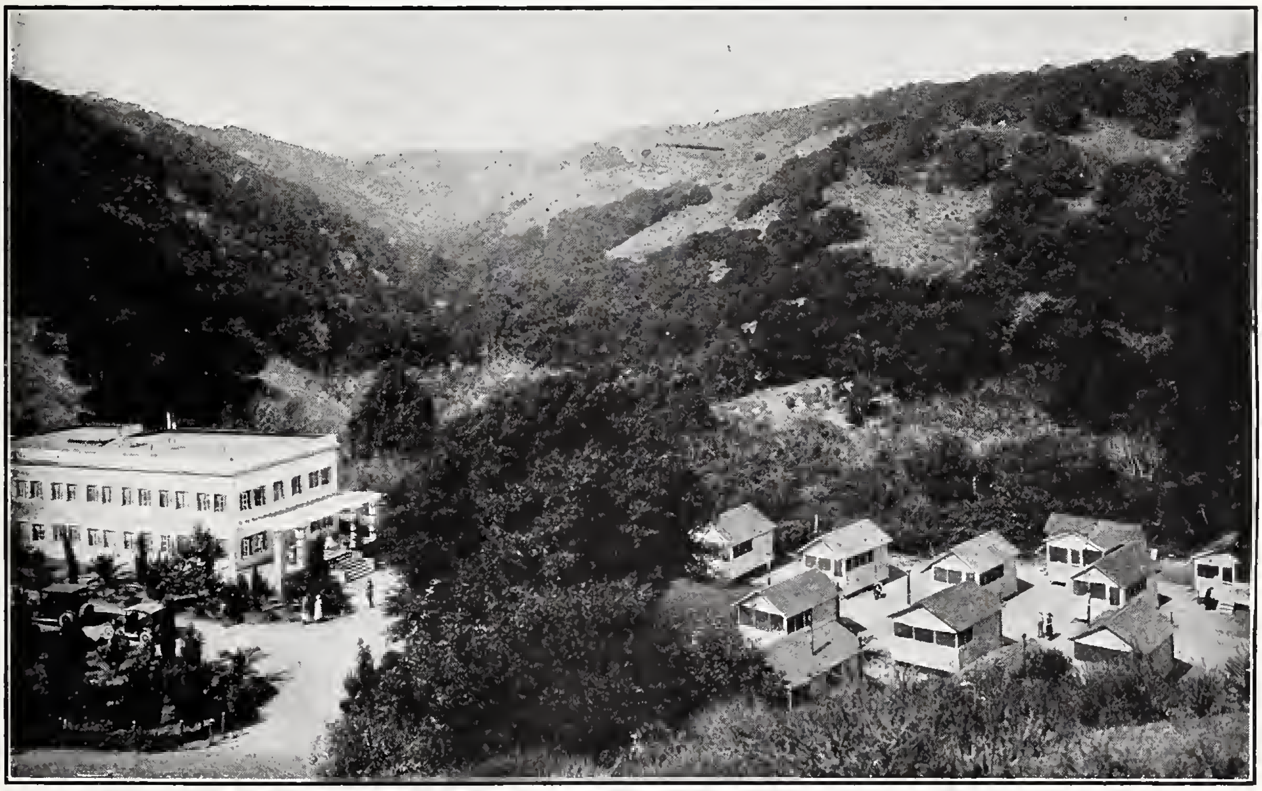

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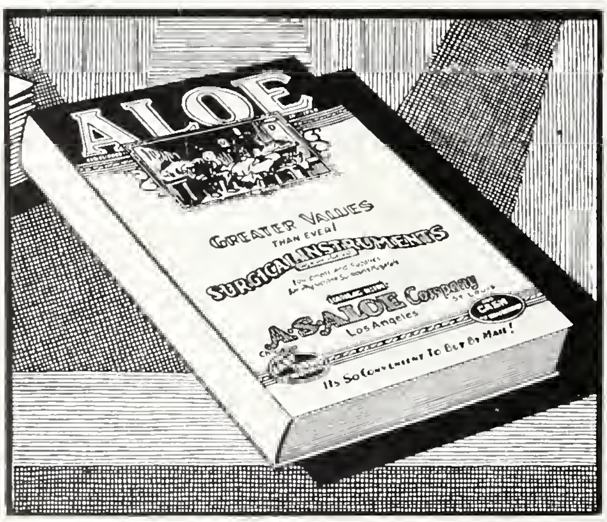

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TRUTH ABOUT MEDICINES

(Continued from Page 20)

ash, 2 per cent; fat, 7.3 per cent; protein, 15.2 per cent; crude fiber, 1.3 per cent; carbohydrates, 66.2 per cent.—*Journal of the American Medical Association,* March 7, 1931, p. 773.

Land O'Lakes Sweet Cream Butter (Land O'Lakes Creameries, Inc., Minneapolis).—A packaged, salted or unsalted butter graded by official federal-state butter graders as rating 93 score or higher. The cream used in the manufacture of this butter, the conditions, equipment and process of manufacture, and the final product must meet certain published standards and requirements adopted by the corporation. Before packaging, the butter is graded according to government standards by federal-state butter graders appointed by the United States Department of Agriculture in coöperation with the Minnesota State Department of Agriculture. The composition of the salt butter is: moisture, 15.8 per cent; milk-fat, 80.7 per cent; curd, 1 per cent; salt, 2.5 per cent. The composition of the unsalted butter is: moisture, 16 per cent; milk-fat, 83 per cent; curd, 1 per cent.—*Journal of the American Medical Association,* March 14, 1931, p. 861.

Knox Plain Sparkling Gelatine (No. 1) (Charles B. Knox Gelatine Company, Inc., Johnstown, N. Y.). An unflavored, unsweetened granular gelatin. Knox gelatine is not chemically bleached nor does it contain preservatives. Strict sanitary control is exercised in the manufacture. The composition is: moisture, 13 to 14 per cent; ash, 1 to 1.2 per cent; protein, 85 to 86 per cent; fat, 0.1 per cent; arsenic as As_2O_3, 0.6 parts per million; copper as Cu, 2.5 parts per million. Knox gelatine contains no sugar or added flavor. It is one of the most readily digested proteins.

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Velveeta (Kraft-Phenix Cheese Corporation, Chicago).—A delicious cheese food. Kraft Process American Cheese with added milk sugar, milk minerals, and water. A cheddar cheese admixed with cream (or butter and skim milk powder), milk-whey powder, and salt. The approximate composition is: moisture, 44 per cent; ash, 6 per cent; fat, 25.5 per cent; protein, 18 per cent; lactose, 6.3 per cent; calcium, 0.53 per cent; phosphorus, 0.71 per cent; 75 milligrams of Velveeta is equivalent to 10 milligrams of butter in vitamin A potency. Velveeta is claimed by the manufacturer to be richer in milk minerals and lactose than the usual cheeses not containing the milk whey.—*Journal of the American Medical Association,* March 21, 1931, p. 947.

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(Continued on Page 25)

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TRUTH ABOUT MEDICINES

(Continued from Page 23)

Collette), consisting essentially of acetanilid, sodium bicarbonate, and caffein. G. G. Germicide (Rose Rockwood), consisting essentially of formaldehyd, extracts of plant drugs including sassafras, alcohol, and water. Success Cold Tablets (Walgreen Company), containing acetanilid, some laxative plant drug extractives, with wintergreen flavor. Muco-Solvent and Muco-Solvent Salve (Hessig-Ellis Drug Company and Van-Vleet Ellis Corporation), the first consisting essentially of salicylic acid, extracts of plant drugs, glycerin, alcohol, and water; the second consisting essentially of petrolatum and volatile oils, containing camphor, menthol, turpentine, and spearmint. Nervac (Nervac Medicine Company) consisting of extracts of plant drugs including laxatives, salicylic acid, glycerin, and a small amount of alcohol, flavored with wintergreen. Da-Lee Mouth Wash (Da-Lee Chemical Company, Inc.), consisting essentially of sodium bicarbonate, small amounts of glycerin and volatile oils, with 36 per cent of alcohol and water. Selso Headache Powders (The Standard Manufacturing Laboratories), containing acetylsalicylic acid, acetphenetidin and caffein. Marvel Chemical Tablets (The Marvel Company), containing boric acid, compounds of aluminum, iron, zinc and calcium, sulphates, carbonates, tannic acid, menthol, and thymol. Fritch's Vegetable Soap (J. A. Fritch), essentially a soap made from palm oil perfumed with oil of citronella.—*Journal of the American Medical Association,* March 7, 1931, p. 793.

Zinc Chlorid in Cancer.—The use of zinc chlorid and similar caustics in the treatment of cancer has been practically abandoned by all except the "cancer cure" quacks. Such caustics are difficult of control, so that there is destruction of healthy, as well as of malignant, tissue; their action is slow, thus unnecessarily prolonging the pain of removal. Much better results can be obtained by the judicious use of sur-

(Continued on Next Page)

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TRUTH ABOUT MEDICINES

(Continued from Preceding Page)

gery when the growth is operable, or by the use of radium and roentgen rays when the disease has advanced beyond the chance of its complete removal. The use of such caustics has been abandoned also by the progressive dermatologists in the treatment of small epitheliomas of low malignancy; they use, instead, radium, roentgen rays, or coagulation with high frequency currents.—*Journal of the American Medical Association,* March 7, 1931, p. 797.

Thymophysin Not Acceptable for New and Non-Official Remedies.—The Council on Pharmacy and Chemistry reports that Thymophysin is stated to be a preparation of posterior pituitary and thymus, manufactured by Fritz-Pezoldt of Vienna and is marketed in this country by the American Bio-Chemical Laboratories, Inc. Because the claims for its action were inadequate, it was necessary to subject Thymophysin to examination by accurate pharmacologic methods to see whether the claims made for it are justified or whether it might not be merely a weak pituitary extract. This study was made by Professor Erwin E. Nelson of the department of pharmacology at the University of Michigan. He studied the action of Thymophysin as compared with pituitary and again the action of thymus in connection with pituitary. Nelson concluded that there is no unequivocal evidence that either oxytoxic or pressor activities of pituitary are altered by the simul-

(Continued on Page 31)

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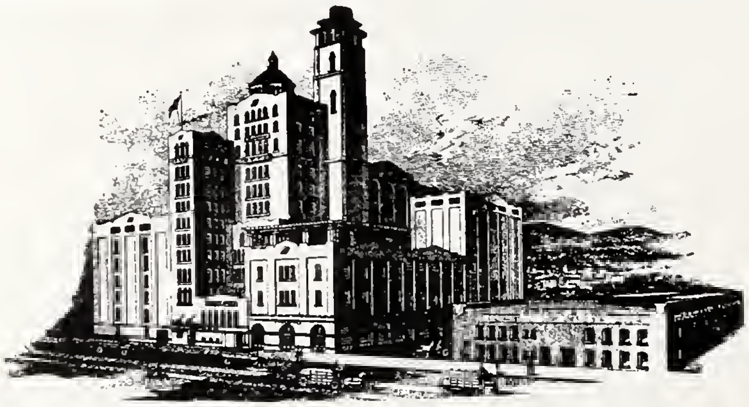

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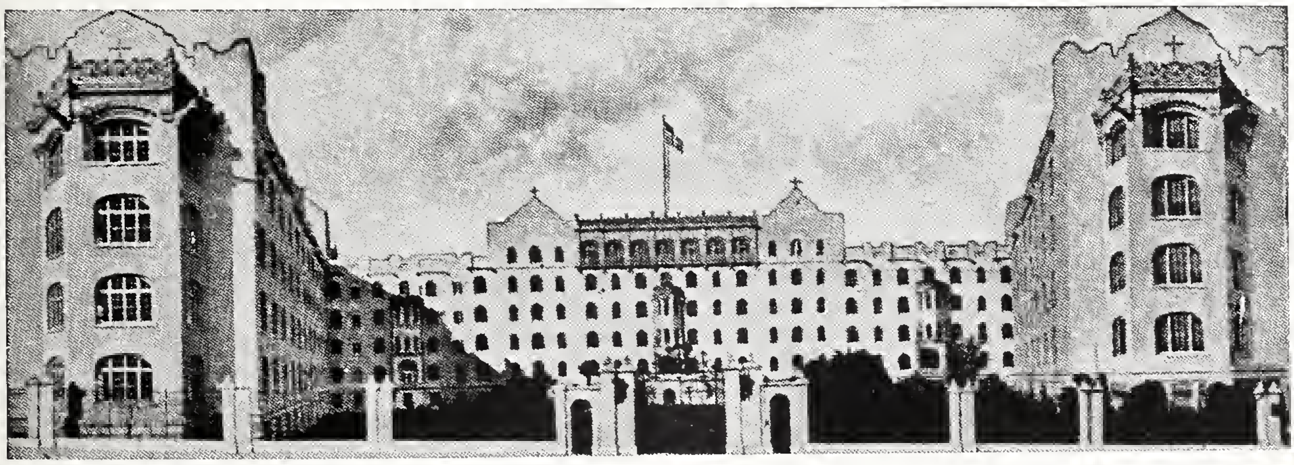

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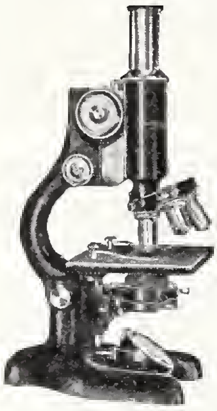

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TRUTH ABOUT MEDICINES

(Continued from Page 26)

taneous administration of thymus; that experimentally no difference could be found in the oxytoxic or pressor activities of pituitary alone as compared with pituitary plus thymus; and that Thymophysin ampoules contained only about 30 per cent of the strength claimed. The Council declared Thymophysin unacceptable for inclusion in New and Nonofficial Remedies since it is an unscientific preparation marketed under false claims as to its essential action, as to its strength, and as to its safety for mother and child.—*Journal of the American Medical Association,* March 14, 1931, p. 860.

Bovinine and Neobovinine Not Acceptable for New and Nonofficial Remedies.—The Council on Pharmacy and Chemistry reports that Bovinine and Neobovinine are marketed by the Bovinine Company of New York and Chicago. In 1909 the Council reported that while Bovinine was advertised as a "condensed beef juice prepared by a cold process" it was not meat juice but a mixture of alcohol, glycerin, added sodium chlorid, and apparently some form of defibrinated blood and that the product was marketed with unwarranted claims. In 1914 the Council reported that the unwarranted claims were, for the greater part, still made, and also that the conclusions of the first report were fully warranted by the experimental evidence. The Council has not given consideration to the product since the report in 1914 was issued. Attention having again been called to Bovinine through the advertising for a similar one, "Neobovinine," which is marketed with it, a referee of the Council reported that for Bovinine the situation remained about the same as when the product was last considered. Neobovinine 20 is stated to be "essentially Bovinine (Plain) in which is incorporated the active principle of fresh whole liver." Certainly the

(Continued on Page 34)

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Lyell C. Kinney, M. D.
San Diego

THE subject of cancer therapy is chosen for presentation at this time because of the increasing importance which malignant disease has acquired in the relations of the medical profession with the public. Public interest is focused upon this problem, and during the past year it has been a subject of quite constant discussion among medical men. The treatment of cancer is especially important to the California medical profession because of the rapidly increasing mortality rate from that disease in this state. The death rate from cancer in California has increased 50 per cent since 1918, and it has doubled since 1906. This is especially interesting in view of the rapid decrease in the California mortality rate of tuberculosis which has fallen in almost the same proportion in which the mortality rate of cancer has risen. The death rate from cancer in California is almost 30 per cent higher than the average death rate in the United States, and it is 80 per cent higher than that of Canada. The high and increasing cancer death rate in California is due largely to the influx of patients with chronic diseases or of advanced age. It is also due to more accurate diagnosis. However, the fact remains that we are dealing with a steadily increasing number of cancer patients in our State.

THE RESPONSIBILITY OF THE MEDICAL PROFESSION

The responsibility of the medical profession in this problem is also greatly increased by the unprecedented publicity that has recently been given to cancer. The public has become cancer-conscious. It realizes the dangers lurking in cancer and is seeking help earlier than ever before. This change in the attitude of the public makes it incumbent upon us to provide adequate means of diagnosis and treatment of cancer to meet this increased responsibility.

The cure of cancer depends upon early diagnosis and immediate treatment. Early localized, accessible cancer is curable. The percentage of five-year cures in those patients in whom the stage of glandular involvement or metastasis has not been reached varies from 50 to 90 per cent, depending upon the region involved. These are proven, possible results, as shown in the work of experienced men in the largest and most adequately equipped institutions, but they are results obtained only in the early localized stage of the disease.

A survey of cancer patients seeking aid shows that only a very small percentage comes in the early stage of the disease when cure may be possible. At least 25 per cent of the patients who have carcinoma of the breast are inoperable and 60 per cent of the patients with cancer of the uterus, stomach, thyroid, and rectum are in too advanced a stage to anticipate a cure. This percentage reaches 85 per cent in the cases of cancer of the paranasal sinuses. It has been estimated that in the large New York hospitals at least 75 per cent of the cancer patients are first seen in an advanced stage.

When we summarize the actual results of our present treatment of cancer, even with modern methods used in the most skilled manner, the five-year cures among the treated patients make up only 25 per cent of the total number. This obtains in the operated patients who have carcinoma of the breast and stomach, in radiated patients with carcinoma of the cervix, and in patients with intra-oral cancer in which a combination of the two methods is used. When we consider these results of treatment in comparison with the high percentage of patients having advanced inoperable carcinoma, we find that less than 10 per cent of the patients presenting themselves for treatment to our best equipped hospitals have a life probability beyond the five-year period.

The public, however, does not judge the success of the treatment of cancer by these results from the few great clinics of the world. Its opinion is formed from the failures it observes in the local communities. Most cancer is treated by surgeons whose experience is limited to a very few patients a year. The consequent operative mortality is high and the actual cure of cancer is thus not comparable to the better results which we have described. It is no wonder that the public looks upon cancer as a hopelessly incurable disease and dreads any operative attack.

We must face the fact that, although early accessible cancer is curable, only from five to ten per cent of our cancer patients are salvaged for five extra years of life and that the mortality from cancer is steadily increasing. The obvious answer is that the cancer patient must be reached by adequate, early treatment in skilled and experienced hands. How to accomplish this is one of the outstanding problems before the medical profession.

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* President's address, sixtieth annual session of the California Medical Association, April 26-30, 1931, at San Francisco.

PREVENTION OF CANCER

It is not an impractical or Utopian idea to believe that a large number of the cases of cancer can be prevented. Cancer of the skin almost invariably arises in lesions which can be readily removed. The same is true of cancer of the lip, tongue, and the anterior intra-oral region. The lump or ulcer that does not heal immediately is recognized by the patient in its early stages while it is still resectable.

Cancer of the cervix, which represents one-quarter of all the cases of cancer in women, is almost wholly preventable. The preëxisting laceration, erosion, or infection can be promptly eliminated by repair, amputation or cautery, and cancer of the cervix practically never occurs in those patients in whom these lesions have been successfully treated. Such a program involves meticulous repair after delivery and also involves periodic examinations, but the reward of preventing one-fourth of the cases of cancer in women is worth the cost of any amount of education required for its attainment on the part of both the public and the medical profession. This alone is a worthy objective for the medical profession in facing the cancer problem.

The less frequent cancer of the gall-bladder and thyroid is equally preventable. Ninety-four per cent of the cases of carcinoma of the gall-bladder are associated with gall-stones, and 92 per cent of the patients give a long history of gall-bladder symptoms or of repeated attacks of gall-bladder colic. Carcinoma of the thyroid gland develops in preëxisting adenomata which are readily recognized and easily removed in from 80 to 90 per cent of the patients.

The greatest service rendered mankind by the medical profession in the past fifty years has been the prevention of infectious diseases. An equal service is possible in the prevention of cancer, but it cannot be accomplished by the wholesale methods that obtained with yellow fever, typhoid fever, or diphtheria. The prevention of cancer requires the active interest of the individual patient and the alert attention of the individual physician. Given both, there would be a prompt reduction in the incidence and mortality rate of cancer.

EARLY DIAGNOSIS

We have attributed the mortality of cancer largely to the fact that patients do not seek medical advice immediately. This factor is losing its importance through the efforts of the American Society for the Control of Cancer and other widespread publicity. The public is being educated to the significance of the lump, the ulcer and the atypical bleeding, and as we continue this education the public will expect and demand early diagnosis followed by immediate adequate treatment. The responsibility for cancer mortality is coming to rest largely upon the medical profession—upon its ability to recognize early cancer and to treat it immediately and adequately. We must justify our propaganda for periodic examination and early advice.

Early cancer is one of the most difficult lesions to diagnose. The first symptoms are trivial and by the time the diagnosis is obvious the cancer is usually no longer early or curable. There is no excuse for treating lesions of the lip or oral cavity with silver, cautery, or radiation without diagnosing the lesion, and diagnosis most frequently demands excision of the lesion and microscopic examination. A few days of nonirritating asepsis are justifiable while searching for and removing possible etiological factors, but beyond that a diagnosis as to whether the lesion is benign or malignant is imperative in every case if we expect to lower cancer mortality. Lesions of the rectum carry a similar responsibility. Ninety per cent of the cancer in this region lies within reach of the examining finger, and all cases admit of easy biopsy through the proctoscope, yet nearly 60 per cent of these cases escape early recognition because of failure to make the examination or because symptoms are attributed to an innocent hemorrhoid or fissure.

Fortunately, patients with carcinoma of the breast are reporting for examination earlier than in the past. The early diagnosis, in the majority of patients, can be based on a lump which is fixed in the surrounding breast tissue; but there are still 25 per cent of the patients who do not permit a preoperative diagnosis. The only safe opinion must rest upon a microscopic diagnosis of a frozen section of the excised lump, and the surgeon must be prepared for immediate radical surgery if the diagnosis is one of malignancy. To wait for dimpling of the skin, retraction of the nipple, or involvement of the axillary glands is to throw away deliberately the possibility of a cure.

TREATMENT OF EARLY CANCER

Not only is the early recognition of malignancy essential. Adequate treatment must be immediate. The period of time during which cancer is in a curable stage is short. In many types of lesions it consists of only a few weeks; in the majority of cases, of not more than six months. To wait for classical symptoms or to temporize with expectant treatment is to squander the patient's chance to live.

We must remember that the first method of attack usually determines the final results. If a mouth lesion is treated by superficial cautery or "a little radium," if a suspicious lesion of the cervix is subjected to tampons, if a breast tumor is treated with hot compresses or massage, or if a carcinoma of the stomach is treated as an ulcer, the patient is robbed of the curable stage of his disease. After such a primary attack and delay the mistake will not be remedied by referring the patient to the most skillful surgeon or by taking him to the great cancer hospital. They cannot return the patient to the stage of curability. Time, and usually a very short time, determines whether or not the patient can be cured by any known method or by any operator. The fate of the patient lies with the physician who first sees him.

The adequate treatment of early cancer is radical removal of the growth. With few exceptions this means radical surgery. Early skin cancer can be successfully treated by the x-ray or radium, and cancer of the cervix responds to proper radiation with a higher percentage of cures than can be obtained by other methods. However, even in these patients good surgery is better than indifferent or insufficient radiation. Proper radiation demands skill and experience equal to that of good surgery. In cases of cancer of the mouth the addition of radiation to surgery will materially increase the number of cures. In cases of seminoma of the testicle and of papillary carcinoma of the ovary it is essential that surgery be followed by x-ray therapy. But early cancer is primarily a surgical problem. There is no easy method of cure! No drug or hypodermic medication will prevent the growth of cancer! The use of any other therapy in order to avoid surgery or to delay surgical removal results in inexcusable waste of human life.

It is in the case of early cancer that the physician faces his greatest responsibility. The patient with the advanced carcinoma he can comfort, but seldom cure. The early case is curable, and he can prevent the disease from becoming advanced and incurable. The general practitioner usually sees the patient first, and the control of cancer rests largely upon him. He sees many cancer patients early, and as popular education progresses the general practitioner will see a much larger percentage of such, and while the patients are still in the curable stage. The future mortality rate of cancer will depend first upon the promptness of the general practitioner's recognition of the disease and his demand for immediate treatment, and secondly, upon the skill and experience of the surgeon and radiologist who see the patient in consultation with him.

PALLIATIVE TREATMENT

It is estimated that there are fifteen thousand patients in California who have cancer advanced beyond the probability of cure. This group of patients presents a much more complex and difficult problem than does the early, curable group, and the two distinct indications for treatment are prolongation of life and, what is more important, freedom from suffering during the years or months ahead. There is a tendency on the part of both the patient and his physician to demand radical treatment after the primary delay when it is too late. We err as much in attempting to do the impossible with surgery and radiation in late cancer as in temporizing without them in early cancer. In the treatment of these late patients we must determine clearly what constitutes surgical operability, and we must limit our attack with radiation to palliation, taking care not to increase rather than decrease later symptoms. There comes a time when radical surgery and destructive radiation are no longer indicated; when, on the contrary, they will shorten life and cause increased suffering.

When used with proper restraint and appreciation of its limitations, the palliative treatment of cancer prevents untold suffering and occasionally prolongs life. In cases of cancer of the gastro-intestinal tract, palliation must depend upon surgery alone; side-tracking operations when the growth is not resectable will remove obstructive symptoms and keep the patient comfortable. Radiation has little favorable effect upon these patients. In cases of carcinoma of the rectum, a colostomy followed by the implantation of radium into the growth, together with external radiation, gives a large number of favorable symptomatic results. Carcinoma of the bladder frequently becomes symptomless with the use of x-ray therapy or the implantation of radium, if the growth is not too extensive. Carcinoma of the thyroid is well controlled by radiation with or without surgery, and such cases frequently do well until overcome by distant metastasis.

Carcinoma of the breast usually requires both surgery and radiation for its best palliative treatment. In cases in which the extension is limited to the axillary glands, radical excision, followed by postoperative x-ray therapy, gives the best final results. In cases in which the extension has reached the supraclavicular glands or more distant regions, radical excision is contraindicated; but radiation, with or without amputation of the breast, will add greatly to the comfort if not to the prolongation of life of the patient. Recurrences following surgery for carcinoma of the breast are inoperable unless distinctly localized and freely movable. But recurrences and bone metastases frequently yield to radiation.

Carcinoma of the cervix, unless far advanced, usually admits of local healing and months of freedom from symptoms, through the use of radium and x-ray therapy. Even in the frozen pelvis, radium will frequently stop the bleeding if judiciously applied. The palliation thus secured in these types of carcinoma patients is invaluable even though life is not prolonged.

LIMITATIONS IN DIAGNOSIS AND THERAPY

While emphasizing the importance of early diagnosis we must recognize the fact that in a large percentage of patients abdominal cancer does not lend itself to early recognition because of the lack of serious or characteristic symptoms in the early course of the disease. Our California statistics show that over 50 per cent of cancers in the male are found in the gastro-intestinal tract, mesentery, liver, or pancreas, and that over 35 per cent of cancers in women occur in the same organs. It is not probable that these patients will learn to seek advice earlier than they do now. The accuracy of diagnosis in those patients who do seek advice may be materially increased by the search for cancer in all patients past the third decade. However, we may not expect a great decrease in the total cancer mortality in this group with our present methods of diagnosis and treatment.

We must also recognize the fact that there is a large field of cancer in which our present methods of treatment are futile. Cancer of the lungs, liver, and pancreas are beyond our present reach; cancer of the esophagus has involved the entire thickness of the esophageal wall by the time it is discovered; extensions into pelvic and retroperitoneal glands or into retroperitoneal tissues cannot be reached; the late sloughing infected cancer in any location offers very little hope even for palliation.

EDUCATION OF THE PROFESSION

This sketchy survey of the possible cure and palliation of cancer serves to point out the responsibility which rests with the medical profession. The first burden of that responsibility rests on the education of the family physician. He must be taught to protect his patients from cancer by the treatment of precancerous lesions. He must be taught to recognize the importance of suspicious lesions and suspicious symptoms. He must be led to realize the imperative need for immediate, accurate diagnosis and prompt treatment. The cure of cancer lies in the eradication of the suspicious lesion, the early lesion before it becomes typical or obvious.

NEEDS OF CALIFORNIA IN EARLY TREATMENT

The second responsibility is the provision of means of accurate diagnosis and proper treatment that shall be accessible to the family physicians of California. The diagnosis and treatment of cancer is far too complex a problem to be considered the function of the individual physician or of any one specialist. Diagnosis involves a large field of technical procedures, and the program of therapy requires the combined judgment of the internist, the surgeon, the pathologist, and radiologist. A pathologic diagnosis of carcinoma or sarcoma is no longer adequate. The pathologist must consider also the type of cell development, the age of the patient, the reaction of the host, the rapidity of growth, and the probable radiosensitivity of the part involved. Knowledge of all of these conditions is essential to intelligent therapy. Likewise, the choice and method of treatment requires wide skill and experience in both surgery and radiation. Thus the proper handling of cancer is not an individual problem for the individual physician; it is a study problem for a group of physicians.

The medical profession in France has shown the best judgment in connection with this problem. Cancer hospitals of from fifty to one hundred beds, supported partially by the government and partially by private funds, have been scattered in the university towns throughout France. Preparation was made for the early diagnosis and proper treatment of cancer before starting any campaign of popular education, so that the French profession was then able to justify its propaganda for early examination.

A large number of special cancer hospitals in California is neither desirable nor practical at this time. But the question of organization of cancer groups in at least one hospital in every large city demands our immediate attention and is a possibility which can be promptly realized. Without great expense, members of the various specialties having definite interest and experience in cancer may be organized for group work, which will greatly increase accuracy in diagnosis and efficiency in treatment. The establishment of such a group in a general hospital will make available the consultation required by the family physician and will hasten his education in the recognition of early or suspicious cancer. Such a cancer group is an immediate possibility in every large city. The Society for the Control of Cancer or the Committee on Malignant Disease of the American College of Surgeons will conduct a survey of the local situation whenever requested by your County Medical Society, and will assist in determining the proper program and will direct in its organization.

The next immediate step in California in furnishing accurate diagnosis and treatment should be the establishment of a large cancer institute in each of our metropolitan cities. The city and county of San Francisco is preparing to build such an institute in the near future. Every possible effort should be made by the profession to obtain a similar cancer institute in Los Angeles. These two institutes, with the coöperation of the adjacent medical schools, should contact and correlate the work of all the cancer groups in the surrounding cities. The facilities of each institute should be open to the outlying groups to assist in pathologic and clinical diagnosis, to standardize radiologic equipment and to furnish radium emanation at cost. In these institutes there would be opportunity for the observation and experience necessary for training the members of the local cancer groups. With two such cancer institutes coöperating with cancer groups in the general hospitals in each county, the profession could bring to the people of California the early care which is the major problem in cancer therapy.

CANCER RESEARCH

The final responsibility of the profession lies in the field of research. When we consider that to 75 per cent of our present cancer patients, we can offer palliation only, and that to a considerable number we can offer nothing, either in the way of cure or palliation, we realize that research is of paramount importance. The medical profession should encourage and support all lines of scientific research that point to the control of cancer. Little can be expected from new or more radical methods in surgery, although there is a large field for more experience and better surgery. There have been tremendous advances in radiation therapy in the past fifteen years, and these will doubtless continue; but the decrease in cancer mortality and added palliation from radiology must come as a result of its early application and not from new methods of treatment or technique.

Proper research in the field of cancer in California demands the organization of these two large cancer institutes which would have the coöperation of our four medical schools. Our future research in cancer should be conducted under the guidance and with the assistance of these two institutes, which will have at their command a large concentration of all types of patients, as well as the clinical, pathological, and biochemical departments of the medical schools. This will assure correlation of research with all existing methods of treatnent, and will give opportunity for proper evaluation of results and determination of patients for whom new methods are indicated.

The present trend of cancer research is toward the field of biochemistry. The work with heavy metals at the tumor clinic of the Jefferson Hospital illustrates the efforts in this direction. Another valuable research is that at the Lankenau Hospital on the relation of the sulphydryl radical to cell division. Experimental work on growth restraint and palliation from various endocrine extracts is being pursued both in this country and in Italy. All of these methods should receive a final determination of their value, but they must be considered in the early experimental stage at the present time.

CANCER A PUBLIC HEALTH PROBLEM

There are medical economic considerations which make it important for the profession in California to give serious thought to cancer therapy. Cancer is rapidly coming to be considered a public health problem. Because of the large mortality, which is rapidly increasing in spite of our popular education and improved methods of therapy, many public health authorities consider that the cancer problem is one which should be subject to state control. In 1929 the legislature of Massachusetts directed the State Board of Health to establish cancer clinics throughout the state, and to establish a cancer hospital which should be open to the entire population. This action was taken with little regard to the will or desire of the medical profession. Fortunately the program was developed with the advice and help of the leaders in medicine in Massachusetts, and the clinics were located only with the consent and active coöperation of the county medical society in each locality. The program has proven of immeasuraole value to the medical profession as well as to the public. Nevertheless this is state medicine. However, other states will follow this lead. Such a program of state development and state control will undoubtedly be proposed in California. It behooves the California Medical Association and the county medical societies to anticipate such action with serious, active consideration. We should plan well our cancer program so that we may lead and direct legislation in this work as we hope to do along other medical economic lines.

SUMMARY

Summing up this presentation, may I not say that cancer therapy is a challenge to the medical profession in California.

The responsibility of future cancer mortality statistics rests primarily upon the education of the general practitioner and the family physician. With him lies the possibility of the prevention of a large percentage of cases of cancer, and it is he who must detect the suspicious lesion or symptom of early cancer while it is still curable.

We must make early diagnosis and adequate treatment accessible throughout the state. To accomplish this, the California profession should solidly support the program of the American College of Surgeons as outlined by its Committee on Malignant Disease.

We should immediately provide at least two large cancer institutes, equipped for treatment, research, and education of the profession. These two institutes should have the active assistance of the related departments in our four medical schools and should coöperate with the cancer groups in every large center of the state.

We should be prepared to advise and direct legislation and public health activity in the prevention and treatment of cancer, so that they may serve the best interests of the public as well as the medical profession.

Let us tell the public the truth about cancer—that the only hope of cure lies in the early recognition and immediate destruction of the growth. This will continue to be the truth whatever the outcome of our future research.

Let us recognize the fact that cancer diagnosis and cancer treatment are group problems and are no longer the function of the individual physician, or of any one specialty.

Let us organize cancer groups throughout California that we may bring to the public early, accurate diagnosis and efficient treatment.

While we strive for palliation in the thousands of patients who have advanced cancer, let us place equal emphasis upon the education of the medical profession concerning early diagnosis and treatment and upon scientific cancer research. Then the mortality rate of cancer in California will cease to increase and will begin to decrease even as the mortality rate has decreased in tuberculosis.

510 Medico-Dental Building.

SUSCEPTIBILITY TO TUMORS—SOME OF THE FACTORS GOVERNING THE SAME*

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Discussion *by Howard A. Ball, M.D., Los Angeles; H. J. Ullmann, M.D., Santa Barbara; W. T. Cummins, M.D., San Francisco.*

It is well known to those working with experimental tumors that certain factors govern transplantation or inoculation from one animal to another. I say transplantation *or* inoculation, because tumors may in general be divided into transplantable and inoculable tumors. The first require living cells for successful transmission to host animals; the second may be transmitted by the filtered juice or extract, or by the dried, presumably dead, tissue. There are certain laws, however, which govern both types in much the same degree. It is the purpose of this paper to point out these factors, to draw an analogy between the behavior of experimental tumors and human tumors, and to show how some of the factors may be altered by experimental methods.

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ADAPTATION OF TUMORS TO ANIMALS AND OF ANIMALS TO TUMORS

There is considerable evidence that there is a racial, probably hereditary factor in the susceptibility of animals to specific tumors. This applies particularly to genera and species, but may apply to strains or varieties within species. When the Rous fibrosarcoma was first found in a Barred Plymouth Rock chicken, it could be transmitted only to Barred Plymouth Rocks. Later it was found to "take" in a certain proportion of Rhode Island Reds, and still later in white Leghorns. When first inoculated into a strange variety the "takes" may be small in number. Later, by successive inoculations through the same strain the percentage of successful transplants approaches a hundred. Furthermore, this tumor has now passed through so many generations that inoculation into an entirely new strain of chickens is usually successful. This seems to be an adaptation of the cells of the tumor, or the virus, or both, to a variety of strains of animals within the same species.

That also corollary adaptation can be produced seems to be well established. By breeding animals which are only moderately susceptible, proportionately, to tumors, a strain may be produced in which practically every individual is susceptible to tumor; or an immune strain may be produced. The Slye strain of mice, and the Buffalo strain are well known examples. It seems, therefore, that not only cells may undergo an adaptive change by biological evolution, but that animals may be made to adapt themselves, or to inherit a susceptibility to the transplantation of certain cells of a related animal.

By other more artificial means animals and cells have been made to adapt themselves to one another. Sticker[1] was able to transmit a dog tumor to a fox. Fujinami and Hatano[2] have successfully transmitted a chicken tumor to ducks. Murphy[3] transmitted a sarcoma of mice to rats by x-raying the spleen of the host animals, but when the spleen regenerated, the inoculated tumors regressed. It is likely that the removal of the ovaries or testes of animals may influence the transmission of tumors to unrelated animals. Once this mutual adaptation is accomplished each succeeding generation of the tumor shows an increasing proportion of takes until a maximum percentage; usually between 85 and 100, is reached. That this adaptation, both as to tumors and as to animals, is in the nature of an inheritable character there can be no doubt.

TRANSPLANTATION OF NORMAL TISSUES AND TUMOR GROWTHS

Artificial tumors may be produced in animals. By "artificial tumors" I mean masses of growing tissue which feed upon the host but are not actually a part of the host's anatomy, and which may be the result of experimental transplantation. Some of the laws which govern the transplantation of adult normal tissues to normal animals are known. Transplantation from one species to another is practically impossible; from one animal to another of the same species rather difficult; from an animal to another portion of the same animal less difficult. Here, too, the type of tissue makes a difference, as only tissue which ordinarily has a great ability to regenerate when partly destroyed can be successfully transplanted—thyroid, for instance, as opposed to striped muscle which regenerates practically not at all.

Embryonic tissues may be more readily transplanted than adult. Carrell[4] produced tumors in chickens by transplanting chick embryos to adults along with a weak solution of arsenic trioxid. White[5] repeated this, and transmitted the tumors for several generations. Such tumors are teratomas at first. However, the most viable tissue only, mesenchymal connective tissue, continues to grow, and a tumor resembling an embryonal fibrosarcoma results. Here again, as in the case of spontaneous transmissible tumors, species specificity, both as to tumors and cells, persists. Heterologous transplantations of such tumors have not been reported.

The age factor in transmissible tumors is less a definitive property than race. But the age of animals undoubtedly affects their susceptibility to certain tumors. The Murray-Begg endothelioma with which I worked would take in 100 per cent of young Rhode Island Red chicks. As the animals reached maturity the proportion fell off until an age was reached when only about 10 per cent of the chickens were susceptible. It is common practice in laboratories where, particularly, chicken sarcomas are being studied to discard chickens when they reach five to six months of age, as then takes are not regular nor constant. This age corresponds with the period of sexual maturity in most chickens. On the other hand, spontaneous or transmissible *carcinomas* usually occur in older animals. For instance, the Buffalo strain of mice develop tumors on an average at eighteen months of age; the youngest to acquire a tumor was five months old. These tumors, therefore, follow the natural laws which control, more or less, the growth of human tumors and, to a considerable extent, normal tissues.

SIMILARITY OF HUMAN TUMORS TO THOSE OF LOWER ANIMALS

Factors entering into tumor susceptibility in man are less well defined, because of lack of complete knowledge of genealogy. There is, therefore, more dispute concerning hereditary susceptibility or immunity of man to tumors than of animals. But considerable evidence has accumulated to show that, at least in some lines of descent, tumor susceptibility may be inherited. Warthin's[6] cancer families are striking examples. In these a large proportion of several generations contracted carcinomas. The finding of papillomata of the colon in successive generations of a family has been described by Dukes.[7] It is common knowledge that angiomas of the skin may be "inherited," and that pigmented moles run in families. Sometimes these tumors occur in exactly the same parts of the body through several generations.

That there is a racial tendency to some forms of tumors there appears to be no doubt. Naevi are more common in darker individuals. Strangely enough these tumors rarely become malignant in the more pigmented strains. Melanotic sarcomas and carcinomas are much more common in the light-skinned. This is analogous, again, to lower animal tumors. Black horses rarely, if ever, develop melanomas; light or gray horses are much more susceptible. The overproduction of fibrous tissue in the negro is an illustration of the tendency in this race to fibrous tissue tumors. The production of large keloids following injury, sometimes used as facial or body ornamentation, is common to the negro, and seldom occurs in the whites. Fibrosarcomas of low malignancy occur in the extremities of negroes much more commonly than in others. The frequency of fibromyomas in this race is likewise common knowledge. On the other hand, epidermoid carcinomas, of the skin particularly, are quite uncommon in negroes.

TRANSPLANTATION OF HUMAN TUMORS

One may think of malignant tumors in man as coming under two general classes: one, malignant because of an innate biological change in the cell so that the name "virulent" might properly be applied to it; and a second, which consists of viable cells capable of growing locally or in remote places when transported there. This second group may be called malignant by accident. The first are the usual carcinomas and sarcomas which actively invade normal tissues, metastasize widely, and consist of greatly anaplastic cells with all the changes characteristic of malignant growths. The second comprise those tumors which we look upon as "locally malignant" or which may be transplanted, but rarely metastasize. There are typical members of each group, but the line of demarcation between some of them is not sharp. The first group corresponds roughly with spontaneous malignant (inoculable) tumors in animals; the second, with artificial tumors (transplantable) as previously defined (not tar cancers and similar tumors).

Examples of the second group are many. The embryonal fibrosarcoma of children consist of undifferentiated mesenchymal tissue which forms both connective tissue and thin-walled vascular channels. This tumor grows slowly, infiltrates moderately, but usually does not metastasize. It frequently recurs after excision. It would probably transplant readily to another child. Such a tumor corresponds to the transplantable tumors produced in animals by engrafting embryonic tissue. The cells simply have the ability to grow so long as ample nourishment is provided, and, in a sense, have no malignant intention. Other examples are adamatinomas, chordomas, "mixed" tumors of the parotid, and, in a less degree, basal celled epitheliomata.

Tumors in the human which transplant themselves without actively metastasizing are best illustrated by the papillary adenocystomas of the ovary. These may be regarded as fairly safe tumors until they rupture. When spilled into the peritoneal cavity, however, the cells of the tumor have the property of continued growth, and may prove to be malignant "by accident." That normal tissue may behave in exactly the same way has been shown by Sampson and by Jacobson in the case of endometrial transplants. This misplaced tissue continues to grow, and is entirely similar to a locally malignant tumor in its behavior.

Naturally, deliberate attempts to transplant tumors from man to man are not numerous. Coca [8] records the autotransplantation of cancer into the abdominal wall from the use of ground-up cancer tissue (Coca and Gilman's "vaccine"), and Coffey [9] records three others. Cornil [10] mentions the successful grafting of a sarcoma and an adenocarcinoma to other parts of the same persons bearing them. Hahn grafted [11] an epidermoid carcinoma from one portion of the body to another. Among those cases treated with fresh or phenolized tumor emulsion there were some injected with tumor tissue from other individuals. There are no reports, however, of such transplants growing.

SPONTANEOUS RETROGRESSION OF TUMORS AND IMMUNITY

Transmissible tumors of rats, mice, chickens, and other animals occasionally undergo spontaneous retrogression. In the case of chicken sarcomas this usually occurs in older animals, and as suggested previously, this may be influenced by the ripening of the sex glands. In most of these animals the tumor will grow for a while, remain inactive for a period, and then slowly regress and disappear. Similar occurrences are found in the case of human tumors. Cases are reported by Rotter [12] (carcinomas of the rectum), Senger [13] (carcinoma of the mouth), Crosbie [14] (lip), and Gaylord and Clowes [15] (chorion epitheliomas). Flesch [16] reported a huge ovarian carcinoma with metastases which disappeared. Wells [17] mentions a case in which there was spontaneous disappearance of a carcinoma of the colon which reappeared fifteen years later. Similar cases are being mentioned in current literature, but one must be exceedingly critical of many of them. There are enough authentic cases, however, to prove the exception. That some systemic factor or factors develop in such individuals and do not in others (but *are* present in totally immune persons) there can be no doubt. There is not enough evidence to prove that purely local causes are responsible for all these cases. Whether it is possible to transmit those factors to other more susceptible individuals remains to be seen. If they are entirely hereditary or racial in character, the chance for a systemic treatment for cancers seems far remote. Active immunization against experimental tumors has been claimed by Stickler[18] and others, but this immunity could not be transmitted passively to another animal.

FACTORS WHICH ALTER THE RATE OF GROWTH OR SUSCEPTIBILITY TO TUMORS

That tumor growth may be affected by various conditions, natural and artificial, has been shown by both clinical observation and experiment. The rapid growth of tumors of the breast during the period of lactation, as opposed to that in the inactive breast, is a striking illustration of the presence of a growth-promoting substance. That this is not entirely due to an increased blood supply is shown by the more rapid growth of breast carcinomas generally in young sexually mature women in the absence of lactation. The so-called "inflammatory cancer" of Handley may cause death from widespread metastases in as short a period as six weeks, and these occur only in young women, most of whom have not been pregnant.

Many artificial methods have been used in attempts to alter the growth of tumors. Excluding actual destructive agents (x-ray, radium, corrosives, the cautery) their number and variety are legion. Any protein or colloidal solution may affect some tumors, perhaps most frequently causing an acceleration of growth with consequent necrosis, and so producing a false impression of benefit. Glandular extracts of many kinds (thyroid, thymus, pituitary, adrenal, spleen, and others) have been used, mostly without effect. But I wish to show how some manipulations may alter to at least a slight degree the progress of tumors, modify their usual course, or sometimes cause complete retrogression. If it were not for these isolated instances of apparent effect, one would be entirely justified in declaring that any attempt to treat tumors, now or in the future, as systemic diseases capable of being influenced in any way by chemical factors would be hopeless, unwarranted, or even absurd.

Space does not permit detailing even a small proportion of the experiments which have in some way modified tumor growth or susceptibility. For the sake of brevity, the following instances are merely catalogued to point out the many trends which research has taken.*

Removal of the spleen seems to make some animals more susceptible to tumors (Murphy[19] Peracchia and Castellano[20]).

Parathyroid hormone caused rat tumors to grow more rapidly than in controls (Goerner and Shafiroff[21]).

A diet deficient in potassium caused a retardation in growth of mouse sarcomas, and complete retrogression in some (Langfeldt[22]).

Insulin caused a more rapid growth in transplanted rat sarcomas (Barral and Cade[23]).

A diet deficient in vitamin B causes a retardation in the growth of tumors (Caspari and Ottensooser[24]).

Thyroid extract causes an acceleration of the growth of tumors (Flaks[25]).

Adrenalin causes a more rapid growth of cancer cells (Baroni[26]).

Adrenal cortical extracts have no effect on the longevity of chickens suffering from a fibrosarcoma (Connor[27]).

Thymus extract has little or no effect on tumor growth, behaving as a foreign protein (Elsner[28]).

Decreased atmospheric pressure caused a high percentage of retrogressions in rat sarcomas (Sundstroem[29]).

One could continue indefinitely enumerating methods or substances which modify in some way the growth of tumors. With the exception of the experiments reported by Sundstroem, some cases treated with colloidal lead, and the rare cases reported by Coley in which his mixed toxins were used, practically no cures have resulted from this great mass of experimental work. But it shows what I am trying to point out that the life history of many tumors *can* be modified, they *can* be made to grow faster, or slower, and in a few cases *can* be made to disappear. The wide variety of methods used, the number of different species of animals studied, and the variation in types of tumors which are affected in different ways by the same substances, indicate also that probably no single substance or method will ever be found that will act the same way on all tumors. But these very facts indicate that fundamental research in cancer is now more important than ever, and that though a critical, even skeptical, attitude must be maintained in regard to all phases of work on tumors, complete and abject submission to an almost insurmountable problem is not necessary.

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DISCUSSION

Howard O. Ball, M. D. (The W. K. Kellogg Foundation, Los Angeles).—This paper points out very aptly many of the difficult and only partially solved problems connected with the study of malignant tumors, clinically or experimentally. The questions of *how* and *why* for even the observations presented here remain largely unanswered. Species specificity for transplantable tumors is no longer specific. German workers have recently recorded the transplantation of a human tumor (carcinoma of cervix) to white mice.

I heartily agree with Doctor Connor that a great need for fundamental laboratory work exists; and an important field, I think, is chemistry. We need more specific reactions for organic substances when present in small amounts in tissues or body fluids. We need histochemical reactions in the microscopic study of cancer tissues, and cancer cells. The explanation of many of the problems of the transmissibility, and possibly even of the hereditary susceptibility of malignant tumors, may finally be chemical. Such a knowledge would help us better to interpret the exceptions which exist. It would certainly indicate whether malignant diseases should be considered as having a common etiology, and thus whether any single procedure could ever be reasonably expected to modify the course or exterminate the existence of a malignant process.

Every present-day method of treating malignant diseases is empirical. Rational therapy can only follow more knowledge of a fundamental character, particularly as regards etiology.

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H. J. Ullmann, M. D. (Santa Barbara Cottage Hospital, Santa Barbara).—Doctor Connor's paper when published will be of great value as a reference work to all those doing research in cancer. It should be read by all surgeons, radiologists, and clinicians, who are dealing with cancer, so that they may think with knowledge and not become too enthusiastic over the regression of a few tumors following the use of any new method of treatment. It is only by the observation of large numbers of tumors in comparison with controls that any method of treatment can be properly evaluated. I was much interested in the suggestion that the increased necrosis or a liquefaction of some tumors following the injection of various substances might be due to an acceleration of growth with choking off of the blood supply, rather than a direct effect on the tumor tissue itself. This is undoubtedly a factor or possibility that must be taken into consideration. We have lately been able to study such effects. Bischoff and Maxwell, in our laboratories, have found that the Allan-Doisy follicular preparation, corpus luteum extract, and four adrenal extracts, when injected subcutaneously into rats, brought about an early instance of liquefaction or opening of R-10 sarcoma without effecting the incidence of regression.

I do not believe it possible, on the basis of our present knowledge of cancer, that any single substance or method of treatment will ever be found that may be used for all types of malignancy. To me it is as absurd to look for a single cancer cure or treatment as it is to look for a single cure or treatment for "infectious disease." And the treatment of all forms of malignancy by one method is equivalent to treating such infections as malaria, syphilis, and pneumonic plague, with the same remedies and procedures.

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W. T. Cummins, M. D. (Southern Pacific General Hospital, San Francisco).—The world's major medical subject appears undeniably to be a biochemical problem. Each of the main types of spontaneously developing malignant tumors may be caused by a specific, and possibly widely different, pathologic metabolic product, or group of products. The subject of immunity and susceptibility in lower animals, as well as in human beings, is as conspicuous in the problem of neoplastic study as it is in infectious diseases. Spontaneous retrogression and disappearance of neoplasms and their retrogression, in consequence of protein inoculation, are subjects of great interest.

Exhaustive studies of histochemical conditions in normal, abnormal non-neoplastic and neoplastic tissues may illuminate the subject. This work is being carried out apparently by a very limited number of investigators.

The topic presented by Doctor Connor has been elaborated most interestingly and well, with the presentation of the facts and of the problems that confront the investigator.

To the progressively increasing army of workers throughout the world, there must be added a host, all of whom, well trained, must attack the neoplastic problem for its final subjugation.

TRICHORRHEXIS NODOSA—A CLINICAL PROBLEM*

REPORT OF CASES

By Charles R. Caskey, M. D.
Los Angeles

Discussion *by Stanley O. Chambers, M. D., Los Angeles; Hiram E. Miller, M. D., San Francisco; H. J. Templeton, M. D., Oakland.*

It was with considerable hesitancy that I decided to write upon a subject about which so little is known. However, having observed twelve cases of a supposedly rare condition during the past year and having made some observations on the course and treatment of a few of them, I deem it worth while to report these cases at this time. If this incomplete report stimulates further study its aim will have been attained.

In order to obviate any confusion that may exist on the part of my hearers concerning the nomenclature of the subject of this essay, the following terms are defined: Trichorrhexis nodosa, as the name implies, is characterized by the presence on the shaft of the hair of one or more irregularly spaced, small, grayish nodes. Microscopically, these nodes at that point show longitudinal splitting of the hair, resembling two small paint brushes jammed end to end. Trichoclasia, essentially a later stage of trichorrhexis nodosa, is the transverse fracture of the shaft of the hair at the middle of the node from traction or bending, while trichoptilosis designates a longitudinal splitting of the shaft of the hair into two or more fibrils.

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* Read before the Dermatology and Syphilology Section of the California Medical Association at the fifty-ninth annual session at Del Monte, April 28 to May 1, 1930.

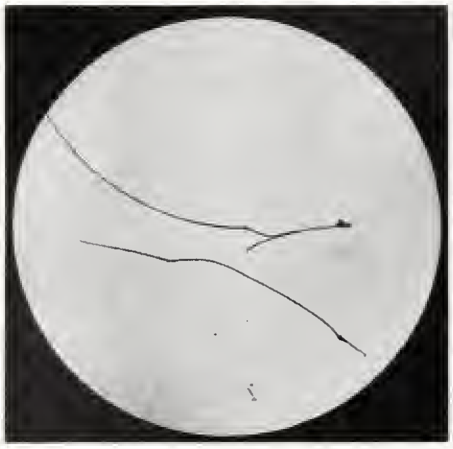

Fig. 1.—Hair stubs from Case 1. Both are small and poorly nourished hairs. Note the nodes near the bulb in each stub. The upper hair illustrates trichoclasia. Transverse fracture of the node is almost complete. The stubs were removed with very little traction. This shows definitely the connection between trichorrhexis nodosa and the loss of hair in this case. These stubs were obtained only after careful and close search of the affected portion of the scalp and were the last affected hairs found. Ordinarily they would have been removed by combing, washing, or brushing.

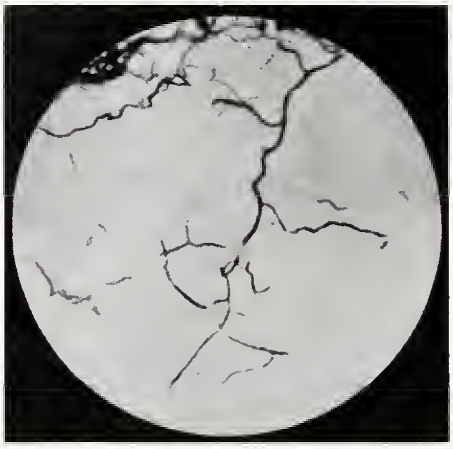

Fig. 2.—Photomicrograph of organism in Case 2. Culture six days old. Branched mycelia and beginning spore formation shown.

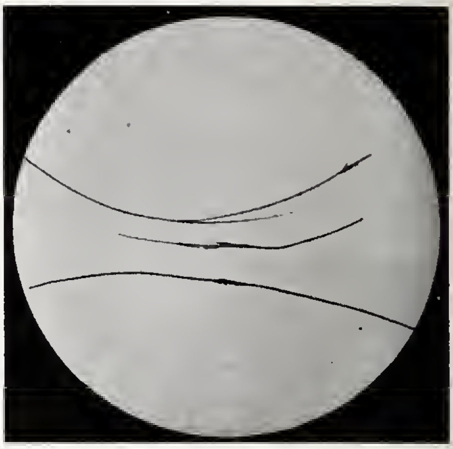

Fig. 3.—Trichorrhexis nodosa (two lower hairs). Trichoptilosis (upper hair). From Case 3.

CAUSATIVE ORGANISM

As recently as 1928 Marcoglou reviewed the literature to date; hence, further comment in this contribution seems unnecessary. Marcoglou reported negative cultures and drew no conclusion as to the etiology.

In reporting this small series of cases, I wish to call attention to the cultural findings in two of them. While this percentage is small, it approaches the findings in other bacteriological tests. We do not know why some organisms are difficult to cultivate on artificial media; we theorize that the media do not approach the soil from which the organism was taken. In theorizing, in the case of trichorrhexis nodosa, it is possible that the organism here cultured gains entrance into the hair shaft within the moist portion of the follicle and there begins to disintegrate the hair while it is growing upward, the fungus gradually dying after the hair grows beyond the moist portion of the scalp. In this way a noded or split hair that had grown out some distance, if taken for culture, would be less likely to produce a growth. Material used for culture in this investigation was taken at random. Some of the diseased hairs were plucked out and others just cut off and planted. This fact was not noted when the records of plantings were made. Some cultures did not produce a positive growth on the first or second planting. Four to eight affected hairs were planted in each culture tube. The value of multiple plants teaches us that we should not, as in all fungus studies in particular, give up the direct search or cultural test until after many trials have been made. Think of the persistence of Castellani, who examined for nineteen consecutive days the scrapings from a single case of pruritus ani before finding the causative organism. It is a well known fact that clinically positive dermomycosis frequently offers negative direct and cultural evidence of causative organisms. I believe figures have been established to show that such failure occurs in 50 per cent of attempts, although repeated examinations raise the incidence markedly.

REPORT OF CASES

Case 1.—P. S., a male, age twenty years, came to the clinic complaining of loss of hair in the parietal regions. A tentative diagnosis of alopecia prematura was made. There was no definite bald area, but a general thinning and shortening of the hair on each side. It looked like the beginning of hair loss which terminates in the typical bald head. In this case the loss of hair was rather sudden and confined, at first, to the left frontoparietal area where for a time many hairs which were only loosely attached could be removed by gentle traction. In a week the right frontoparietal area was noticeably thin. There was no evidence of pityriasis sicca, oleosa, or a true seborrheic dermatitis, and the scalp was apparently in a healthy condition. The patient gave a history of not wearing a hat for several years except now and then on special occasions. His care of the scalp consisted of a soap and water shampoo every two weeks. He had not been using any tonics or barber-shop preparations. A tonic was prescribed but did not seem very efficacious. He complained that his hair was splitting and breaking off. Not much attention was paid to this complaint at first, but I promised that if he would bring some combings I would examine some of the hairs under the microscope. Typical trichor-

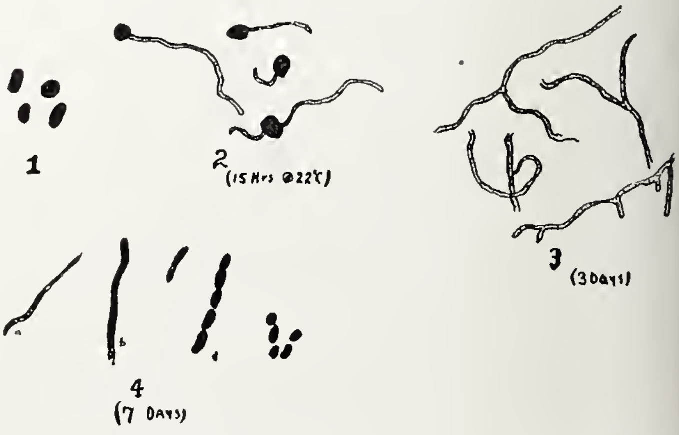

Fig. 4.—Drawing of organism in Case 2, showing life cycle from spore through mycelia formation back to the spore stage. (By courtesy of Dr. Robert A. Stewart, University of California, Department of Bacteriology.)

rhexis nodosa and trichoptilosis were found in this sample. To the unaided eye no hairs back of the center of the scalp were affected, and at no time during my observation of this case could diseased hairs be found on the scalp except in the above mentioned areas.

After numerous plantings of noded and split hairs, a growth appeared which will be described later. At one time a number of hair stubs were planted which gave a good growth after two weeks. The stubs almost disappeared. What were left were soft and broke up easily when pressed out on a slide. This is the best evidence I have that the organism feeds on and destroys the hair. This patient is still under observation. No affected hairs have been found on the scalp for three months and the hair has grown thicker. With the disappearance of the trichorrhexis nodosa the alopecia has improved.

The treatment in this case was as follows. The entire scalp was shaved and ultra-violet light treatments were given every week or two. For a time, at night, biweekly inunctions of the scalp with an ointment containing two per cent salicylic acid and three per cent sulphur was used. This was shampooed out with tar soap the next morning. A euresol, bichlorid, and salicylic acid lotion was used each morning. Fowler's solution was given internally. Most of the time the patient wore no hat and the hair was kept clipped short. The result has been an arrest of the falling of hair and a partial regrowth.

❦ ❦ ❦

Case 2.—D. M., a girl, age thirteen years, came with the complaint of loss of hair of a month's duration. The history, as told, was that the onset appeared as a small crusted spot on the top of the head which seemed to disappear with the application of tincture of iodin. After this the hair came out rather rapidly. The patient was well nourished and in good health. This case presented a large spot of thinned hair on the vertex of the scalp about five or six inches in diameter. In places there was evidence of a new growth of hair. There was no evidence of pityriasis sicca, oleosa, or seborrheic dermatitis anywhere on the scalp.

Unfortunately this patient made only one call at the office, but luckily two plants of the affected hairs were made on Sabouraud's glucose media, the results of which will be referred to later.

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Case 3.—Mrs. R. H., age thirty-four, did not come in on account of a hair condition. She states, however, that her hair comes out rather freely when combed. Two independent cultural studies carried out in this case from material taken on different dates yielded an identical Nocardia-like fungus. The organism has not yet been submitted to a mycologist for definite classification. Its life cycle is a little more rapid than that of Cases 1 and 2, and it is somewhat smaller in size. Cultural and microscopic appearances, however, are very much like those of the other two cases. This emphasizes the fact that similar, though not necessarily identical, organisms may produce the same final gross pathology.

CULTURAL STUDIES

Cultural studies were carried out by planting the affected hairs, four to eight to a single slant, on Sabouraud's glucose media. Several slants were made if material was available. The tubes were kept at room temperature in an upright position and in a place where some light was available.

The growth of the organism in these two cases was slow. A transplant will cover one-third of the surface of an agar slant in one month. It will grow at room temperature, but its optimum growth is at 37 degrees Centigrade. On Sabouraud or glucose agar a dry, compact, white, powdery surface growth is produced. As the growth becomes older there is some crumpling of the media. A distinct earthy odor is apparent when an old tube is opened. The organism does not ferment lactose, sucrose, maltose, mannite, glucose, levulose, galactose, glycerol, raffinose, or zylose. It does liquefy gelatin and gives a grayish white rugose growth on potato. It would not grow in the absence of free oxygen. Inoculation into the skin of a guinea pig was negative, although a small reddish nodule persisted for three days without marked inflammation and disappeared completely in about a week.

Cultural material was examined microscopically with the following findings. The fungus is a very small organism and requires an oil-immersion lens to study it. Like the Nocardia group, it appears as a chain of bacteria. It shows distinct branching and forms numerous spores. It is Gram-positive.

According to Castellani's classification this organism belongs to the order Microsiphonales, family Nocardiaciae and in the genus Nocardia.

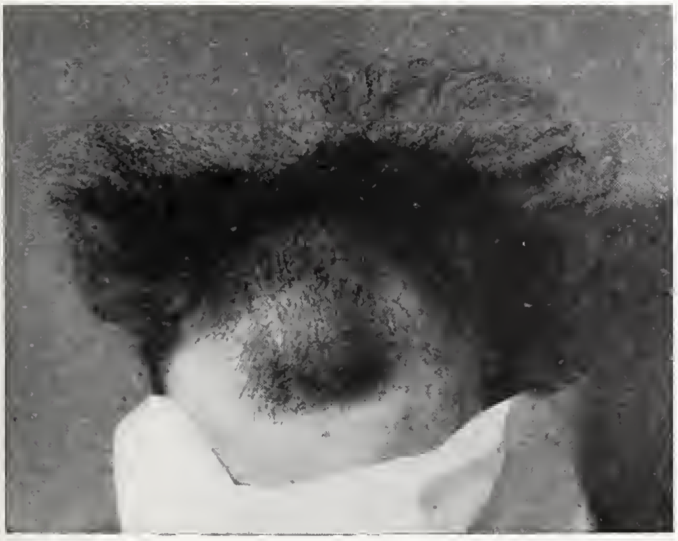

Fig. 5 (Case 1).—Taken at beginning of treatment.

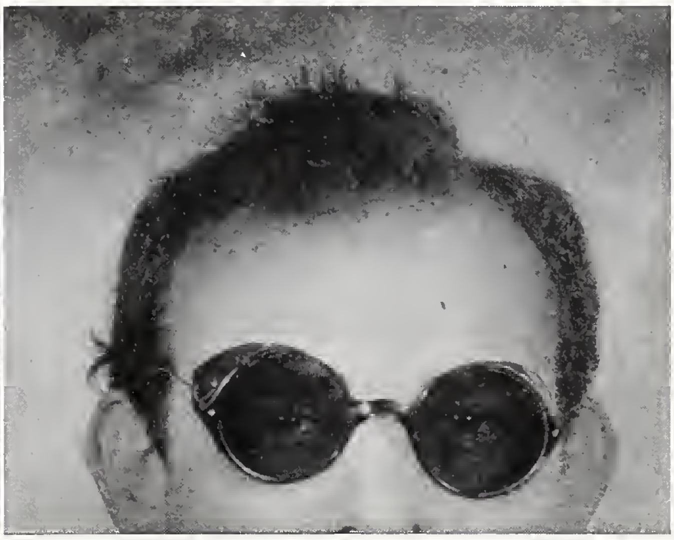

Fig. 6 (Case 1).—Six months after instituting treatment.

OBSERVATIONS OF TEN OTHER CASES

I have observed this condition, trichorrhexis nodosa, in ten other cases, which are not included in this report since I was unable to carry the cultural tests to completion. Most of these cases sought treatment for some form of hair trouble. In three cases of alopecia areata this nodose condition was discovered in near-by hairs. The finding of these twelve cases of trichorrhexis nodosa during the past year leads me to believe that this supposedly rare condition is, on the contrary, rather frequent and that all cases of hair affections should be examined carefully in good daylight. I am sure if you will do this, you will find, as I have found, many cases of this affection in the future.

These studies have led me to believe that trichorrhexis nodosa may be a low-grade infection, causing very little follicular reaction or defense and as a consequence gradual loss of hair. I am aware, however, of the fact that I have not proved that this fungus which we have isolated and described is the etiological factor in trichorrhexis nodosa. It may have just been an accidental contamination of the hair. It is so small that it was not possible in this study to definitely stain it within the hair and thus demonstrate its presence, although at times I thought I could see it in the unstained hairs. Hence, I have not been able to prove to my satisfaction the pathogenicity of the fungus for the hair. In one of my tests, I planted normal sterile hairs on media and among them a culture of the organism. I was elated when I thought that the sterile hairs had become affected, but spoiled them by softening in hydrate solution in an attempt to stain them. When I repeated the test I was not so sure of my previous findings.

In closing I wish to state that I draw no definite conclusions from these preliminary studies in a few cases. It has just been a small endeavor on my part to settle the etiology in a still obscure condition of the hair. I am desirous of knowing whether this is an etiological entity and what part it plays in the alopecia group, the etiology and treatment of which are very unsatisfactory. Until the etiology of any disease is known there can be no sound therapy.

1930 Wilshire Boulevard.

Note.—For assistance in the isolation and identification of the organism in these studies, I am indebted to Dr. Robert A. Stewart of the department of bacteriology of the University of California at Berkeley, to Dr. W. W. Reich of the department of bacteriology of Stanford University, and to Dr. Roy Hammock of Los Angeles.

DISCUSSION

Stanley O. Chambers, M. D. (1260 Roosevelt Building, Los Angeles).—Such investigations as these by Doctor Caskey are exceedingly commendable and should add impetus to further laboratory research in this group of dermatoses. The isolation of an organism from pathological tissues is not *ipso facto* evidence of causation. Its consistent demonstration is, however, highly suggestive. The final requirement is the fulfillment of Koch's postulates, and it is to be hoped that Doctor Caskey will be as successful in this as he has been in the investigation as far as he has gone.

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Hiram E. Miller, M. D. (384 Post Street, San Francisco).—The cause of trichorrhexis nodosa has been a subject of discussion ever since it was first described by Wilson in 1849. The disorder is generally attributed to parasitic, mechanical, or nutritional causes. Bacteria have been isolated by numerous observers, but as far as I know this is the first time that a fungus has been recovered. This investigation has been of considerable interest, and we will all be interested in the complete and final report. In the meantime we must still consider that the fractures or nodes are the result of mechanical injury to a hair probably with a damaged nutrition and associated with heredity.

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H. J. Templeton, M. D. (3115 Webster Street, Oakland).—Doctor Caskey's commendable work has not, as he states, definitely proved that a fungus is the cause of trichorrhexis nodosa. His positive results should stimulate him and others to undertake further studies along this line. One obstacle in his path is that of gathering sufficient clinical material, inasmuch as this condition is a rare one. We could help him if we would send him hairs extracted from any such patients we might see.

I would like to further emphasize Doctor Caskey's statement that one should make many plants of suspected material upon culture media when searching for fungi. In our work on epidermophytosis which is being done at the University of California, Lee Bonar has demonstrated that the proportion of positive findings is not only in proportion to the number of inoculations upon the culture medium but is much higher. Thus, if we increase the number of plantings by a certain per cent the percentage of positive findings increases not only to the same figure, but up to one considerably higher.

Inasmuch as Doctor Caskey is searching for fungi whose natural or acquired habitat is the scalp, I might suggest that he try special culture media such as have been used in searching for another scalp fungus, the pityrosporon of Malassez.

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Doctor Caskey (Closing).—Doctor Lindsay asked if I had observed trichorrhexis nodosa in blonds. I have recently found two cases of the condition in light-haired individuals and do not think color of hair makes any difference in the incidence of this disease.

I agree with Doctor Chambers that it would be more conclusive if Koch's postulates could be carried out in such researches, but do not regard them as a final requirement. Koch's law has not been proved in the case of *Hansen's bacillus,* although this organism has been generally accepted as the cause of leprosy.

As Doctor Miller intimates, it will take further research to prove which of the theories, parasitic, mechanical or nutritional, is operative in bringing about this condition.

I am very glad to have Doctor Templeton emphasize the necessity for making numerous cultural tests in searching for microörganisms in diseases of the skin. One is inclined to become discouraged if the first few attempts are negative. However, we should remember that frequently the pathologist makes many examinations of sputum before giving a negative report in suspected tuberculosis. I am also pleased to have him suggest a special culture media for future use.

A REVIEW OF THE SECONDARY ANEMIAS

PART II*

By O. H. PERRY PEPPER, M. D.
Philadelphia, Pennsylvania

TRUE SECONDARY ANEMIA

We are now ready to discuss true secondary anemia—by which term let us understand ourselves clearly. We now mean anemia due to a definite, recognizable cause, no matter how difficult the discovery of that cause may be. The presence of a secondary anemia is a challenge to our diagnostic skill. Secondary anemia is not a disease, it is only a symptom; it must have a cause and this cause we must discover. There is danger in a too ready acceptance of the conception of frequently occurring idiopathic secondary anemia.

Idiopathic secondary anemia is an old concept, but it is receiving renewed emphasis today and in a manner with which I have little sympathy.

In a classification of secondary anemia issuing recently from one of the leading clinics of this country, all chronic secondary anemia is divided into three groups—a type due to hemorrhage, a type due to some organic lesion, and a type termed "idiopathic secondary anemia." The first two types need no comment, but chronic idiopathic secondary anemia is then subdivided into five types on the basis of the blood morphology.

These five subtypes are each to be recognized and employed as the indication for varying forms of treatment. This is going ahead of our established knowledge. We need such researches and we will be most grateful to him who establishes such new data, but until it is proved and simplified it is beyond our routine use.

Face to face with a patient with unexplained anemia, it seems to me our mental process is somewhat as follows: Is this one of the specifically recognized forms of anemia—pernicious anemia, hemolytic ictero-anemia, sickle cell anemia, for example? Is it a case of secondary anemia and if so from what cause? Only after most exhaustive study would it ever occur to me to be tempted to make a diagnosis of chronic idiopathic secondary anemia—rather would I doubt myself and the adequacy of my search for the underlying undiscovered cause. Nor would I be amazed that my treatment of such patients was not more successful—how could I anticipate cure when I had failed to recognize the cause? For practical purposes a patient with secondary anemia is never idiopathically anemic.

The causes of secondary anemia are legion: hemorrhage, acute and chronic; infections; neoplasms; parasites; chemicals; irradiation; dietetic deficiencies, for example. Rather than discuss each in detail let me describe the blood findings of secondary anemia and then select for fuller discussion a few of the causes which are of special practical interest.

Secondary anemia may be of any grade of severity from the mild degree so commonly encountered as almost to persuade us to accept it as physiologic to the most intense and life-threatening anemia. Severity of anemia is no proof, in fact not even an argument in favor of its primary or pernicious nature.

Characteristically, a secondary anemia exhibits a reduction of the hemoglobin content of the red cells—in other words, the color index is low or at least is below one, or to be even more guarded in our statements, the color index is not above one. In terms of red cell count and hemoglobin percentage, this means that the hemoglobin is reduced more than the red cell count. The extreme example of this is seen in chlorosis, and those instances of secondary anemia which exhibit this relationship, to a marked degree, are termed chlorotic anemia.

At the other end of the scale are those instances of slowly developing secondary anemia which most closely simulate pernicious anemia. These have a color index approaching or equal to one, but not above. They do not, however, present any increase in the size of the red cells and to my mind they are clearly secondary anemias no matter how much they may approach primary anemia in some respects. This group includes especially the instances of anemia from certain growths of the colon and from certain parasites.

The further hematology of secondary anemia adds little to the information given by the blood count. Usually the red cells are of subnormal size and of normal resistance to hypotonic salt solution. The white cell count varies according to the underlying condition and the acuteness of the anemia. Similarly the percentage of young red cells varies with the activity of the bone marrow's response to the anemia, high after an acute hemorrhage, low in the late stages of a long-drawn anemia approaching an aplastic picture.

CLINICAL TYPES OF SECONDARY ANEMIA

Acute Hemorrhage.—Of the many important forms of secondary anemia, let us first mention that following acute hemorrhage. We must remember that reduction of the blood volume is in one sense anemia—but not in the usual sense. Anemia in its clinical sense does not appear instantly after an acute hemorrhage, in fact hours must elapse before the passage of fluid into the blood from tissues and gastro-intestinal tract restores the blood volume to normal and by dilution lowers the number of red cells per unit of blood. Thus anemia results.

The body has reserves of blood cells in spleen and bone marrow ready for emergency calls and a considerable acute loss of blood is required to cause any distinct degree of anemia. The blood loss at most surgical operations is far below the amount required to bring about anemia. When a patient is found to be severely anemic promptly after what seems to be a single acute hemorrhage, one is quite safe in assuming that anemia was present before. This is the case very often with patients with duodenal ulcer. A sudden hemorrhage may seem to lower their hemoglobin to 40 per cent, their red cells to 3,000,000; but in actual fact the ulcer had been bleeding insidiously for weeks before the acute hemorrhage and the blood count before the severe hemorrhage was probably 60 per cent of hemoglobin and 4,000,000 red cells. The more acute the hemorrhage the more marked is the general bone marrow response, and the more evidence of bone marrow activity appears in the circulating blood.

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* Editor's Note.—Part I of this contribution appeared in the April issue of California and Western Medicine, page 233.

Obscured Anemia.—Just as dilution of the blood must occur after acute hemorrhage before anemia is demonstrable by blood count, so dehydration of the patient may wholly hide a fairly severe degree of secondary anemia. This is seen, perhaps, most markedly in cases of pyloric obstruction. The patient is sent to the hospital for operation—he is dehydrated from loss of fluid incident to the pyloric closure. The blood count reveals a normal or even mildly polycythemic picture. In preparation for operation large amounts of fluid are supplied by vein and bowel—the patient improves greatly; his weight rises, but a second blood count reveals a far lower level than on admission. This fall may be misinterpreted as being due to hemorrhage; or to the progress of malignancy; its true explanation is the relief of the dehydration. The higher figures of the first count were for that patient a sort of physiologic polycythemia. It is always well to remember this possibility and repeat the blood count after preoperative preparation; it may reveal such a state of anemia as to make it advisable to give a preoperative transfusion.

This same obscuring of anemia by dehydration is a common observation in severe infection with high fever. Only after the fever breaks does the patient look pale and washed out and the blood count reveal the true level of anemia.

Secondary Anemia From Chronic Hemorrhage. There is no more familiar fact than that severe anemia may result from long-continued or oft-repeated slight bleeding, but it is a little hard to keep in mind how very severe the anemia may be, and from how very inconspicuous a loss of blood the anemia may arise. It is like the dropping water which in time wears away the stone.

Hemorrhoidal bleeding supplies many instances of this as, for example, the following case: W. B. (Med. Clin. U. of P. H. 1928, A. B. 548), a male, thirty-two years of age, was admitted with the history that he had had bleeding from the rectum for seven months. He was first told he had "bleeding piles," but later a suspicion of cancer of the rectum arose as a result of loss of weight, severe anemia, and a roentgenologic study with barium enema. On admission, the blood count was: hemoglobin, 20 per cent; red blood cells, 2,620,000; white blood cells, 6000; marked changes in morphology of red blood cells; differential white count, normal; reticulated cells, three per cent.

No neoplasm was found, but bleeding from hemorrhoids was demonstrated; hemorrhoidectomy performed followed by a prompt rise in the count to 40 per cent of hemoglobin and 3,350,000 red blood cells. This degree of improvement in the blood level rid the patient of all the complaints arising from the anemia.

This is but one case of many which I might quote and which most of you can duplicate from your own experience. Often the bleeding of hemorrhoids is not recognized by the patient and may not be seen on rectal or proctoscopic examination. In unexplained secondary anemia the clinician should be stubborn in abandoning his suspicion of this cause.

Hemorrhage from gastric polyp is also a most important and interesting cause of profound anemia. My first experience with it was a tragic one. In 1918, while on duty at the Base Hospital at Camp Meade a soldier was admitted to the medical service of Major Nellis B. Foster. The young man was intensely anemic without any cause which we could discover with the somewhat inadequate means at our disposal. After our best efforts at diagnosis we unwillingly termed the case one of pernicious anemia, gave five transfusions and discharged the patient very much improved and with normal or almost normal blood picture.

Eighteen months later, after the war, he came to me at the University Hospital and was found to have a gastric polyp which had undergone malignant change. In retrospect, there is not much doubt but that his original anemia had been due to bleeding from this polyp which at that time was probably nonmalignant and could have been easily and permanently removed. As it was, there were metastatic lesions and the patient survived the operation only three weeks.[5] [6]

Hemorrhage is a common occurrence not only from malignant, but also from benign gastric polyps. As Miller[5] [6] of our clinic recently wrote, "If a bleeding gastric polyp is not considered in every case of obscure anemia, certain cases will be entirely misdiagnosed."

Carcinoma of Colon.—The same remark might with almost equal truth be made of cancer of the colon. Here slow bleeding, malignancy and sometimes disturbed nutrition are present, and it is difficult to evaluate the importance of these several factors as possible causes of the anemia. When the anemia is intense and blood is found in the stools, it is often difficult to say whether the anemia is the result of the bleeding or the bleeding a result of the anemia. Unfortunately, in extreme anemia oozing may occur from various mucous membranes and both aggravate the anemia and confuse the diagnosis.

Cancer of the colon is, perhaps, that cause of severe secondary anemia which produces a blood picture most closely approaching that of primary anemia. This must be constantly kept in mind to avoid diagnostic errors.

Secondary Anemia in Infections.—Among the infections which have a special tendency to cause a severe secondary anemia are: acute rheumatic fever, streptococcus viridans endocarditis, malaria, syphilis and spirilla diseases in general.

All infections of long duration, such as typhoid fever and tuberculosis, are accompanied by anemia. Personally I have very seldom seen tuberculosis masquerade as an anemia although this is frequently reported. In syphilis, severe anemia is more often the result of treatment than of the disease.

In this connection it is well to remember that most patients seriously anemic from any cause will exhibit some degree of fever. This must not be used as an argument to favor an infectious cause for the fever, as is often done. For example, let the blood be restored to normal by liver therapy in pernicious anemia or other means and the fever will disappear.

Chemical poisons may cause severe secondary anemia of varying types: potassium chlorate, rapidly by blood destruction; lead more slowly, probably by action on the erythrocytes, and benzol by a damaging action on bone marrow function. These are but examples of a multitude of chemicals to which we are daily exposed—in foods, in the city air some must breathe, in many unsuspected contacts. It is hard to believe that we know all about this topic in view of the rapidly developing science of industrial chemistry. We must be on the alert.

Cases come to mind to support this view. Some years ago an unexplained patient with anemia stayed for weeks in our women's ward. Improvement seemed to follow the clearing up of oral sepsis, but it was not until it was discovered that right under our very eyes the patient was daily using white lead as a face powder, was the true nature of her anemia discovered. Similarly hair dyes may cause anemia from their content of lead.

Another patient, a man, had an obviously aplastic anemia; no explanation was forthcoming. He was questioned as to his work; he was a salesman "on the road" with some line, innocuous at least to the seller. It was not until some days later that a chance remark led to the information that he had purchased an interest in a rubber goods factory and had been doing a little experimenting with benzol and other solvents. Death occurred in spite of our best efforts.

There are literally scores of other causes of secondary anemia which might be mentioned. We have had referred to the medical clinic at the University Hospital cases of malaria, of chronic nephritis, streptococcus endocarditis, all with the referring physician's diagnosis of primary pernicious anemia. We have had an advanced thinker admitted in such a state of anemia that it was not until after transfusion that we were able to elicit his story of such a strict vegetarianism that he would not take a capsule for fear that it was made of gelatin from a horse's hoof. Doctor Kern of our clinic will shortly put this remarkable case of dietetic anemia on record.

Nothing is to be gained by following this thought further. What I have said is perhaps familiar and trite, but those of us who deal with the patient know how often we fail to get to the bottom of a case of secondary anemia. Just before I left the East I looked over again a group of records in our record room on which the diagnosis of "secondary anemia" is given as the primary diagnosis. A study of these records leads to a sense of inadequacy and humility in me rather than to a desire to label them idiopathic and let it go at that.

TREATMENT OF SECONDARY ANEMIA

First, search for the cause; second, keep on searching; third, look for secondary coöperating causes; fourth, treat the cause. During this time it may be necessary and advisable to treat the anemia, but do not let the doing of this take one's mind off the search for the original cause.

The following case history will point this moral: A woman in her forties, the wife of a college professor, spent the four fall months of 1929 in, perhaps, the leading mental sanitarium of the East. There was no mental disease, but extreme nervousness and despondency owing to unhappy home conditions.

On October 24 at the sanitarium the blood count was: hemoglobin, 62; red blood cells, 3,750,000. This anemia was casually attributed to bleeding hemorrhoids, for blood had been observed on the stools for several months. She had also become increasingly constipated and had been losing weight and strength. It was not until the middle of January 1930 that the psychologists noticed her increasing pallor; the hemoglobin was found to be 45 per cent, and she was hastily returned to Philadelphia. On admission to our hospital the hemoglobin was 36 per cent and the red blood cells 3,000,000.

A rectal examination revealed an enormous ulcerating carcinoma. After several transfusions the growth was successfully removed by radical surgery and today the patient is in excellent health with a normal blood count and but little disturbed by her colostomy, which is quite well behaved.

This brief history is most significant and could be made the text for many remarks on the need of thoroughness, the danger of overspecialization, et cetera.

Transfusion.—When the anemia is very severe, it may be wise to transfuse at once. This will protect the patient for the moment from the immediate dangers of severe anemia and will give time for further search for the cause of the anemia. By raising the blood level one can often also put an end to the mucous membrane's oozing which may confuse the recognition of the primary cause. Furthermore, one or more transfusions will often be necessary to put the patient into condition to undergo treatment for whatever primary cause is discovered.

I firmly believe that transfusions are not resorted to freely enough in cases of moderate secondary anemia, but are used far too freely and uselessly in hopeless cases of incurable disease. The prolongation of a suffering life is not a very desirable indication for transfusion. In secondary anemia, however, they are of inestimable value and the danger of reaction is far less in secondary anemia than in a primary blood disease.

In secondary anemia from infection a transfusion is very valuable not only to help combat the infection, but in cases where the infection is at an end and the patient faced by a long, slow recovery the convalescence may often be much shortened by a transfusion.

Certain treatments of disease cause a secondary anemia or an increase of the anemia due to the disease itself. Thus in leucemia of the myelocytic type, it is often anemia which forces a cessation of x-ray or radium treatment, and severe anemia is not uncommon in the lead and radium treatment of inoperable cancer. In such cases transfusion is clearly indicated.

In secondary anemia, then, transfusion should be employed for a variety of indications and without waiting for an alarming degree of anemia to develop. I have only one possible complaint about transfusion in chronic unexplained secondary anemia, which is, that occasionally following transfusion the anemia for the time being remains relieved and one neglects to search for the cause. In primary anemia, transfusion may be needed to tide the patient over until the specific maturation stimulants have time to act.

Iron.—The modern investigations confirm the long-established clinical belief in the value of iron in the treatment of anemia. Also the modern view agrees with older, that it is in chlorosis and in the secondary anemias most closely resembling chlorosis that iron is most efficacious.

It is an interesting corollary on our reactions to scientific advances that when it was appreciated what a small amount of iron was present in the total blood the doses of iron given therapeutically became smaller and smaller. Only recently have we returned to larger doses and the results have been far better. It may seem illogical to deal in quantities of iron many times in excess of what would seem to be the body's maximum needs, but the results justify the procedure. Possibly iron acts also through the so-called "salt action" and only when supplied in larger amounts.

In those secondary anemias which are benefited by liver in one form or another, iron in large doses enhances the liver action. The literature contains many reports to indicate that treatment with liver and iron is more effective than the use of either alone.

Concerning the importance of copper as an adjuvant to iron treatment, the evidence is far from satisfactory.

Only the empiric evidence of the past supports the use of arsenic in anemia.

When iron is indicated, give it in a simple form, such as reduced iron, and give it in large doses. Schulten[7] reports good results from six grams of reduced iron daily, given in thirty three-grain pills each day. Smaller doses gave no such benefit, while one patient improved only when the dose was increased to nine grams a day.

Diet.—There is no doubt concerning the accuracy and the fundamental importance of the studies—many of the most brilliant having been done in California—of the influence of diet on blood regeneration. These studies, which led directly to the modern liver treatment of pernicious anemia, must not be lost sight of.

Nor is there any doubt that severe anemia will result from grossly abnormal and deficient diets. The case already quoted is an example of this, and Minot and others have reported similar observations.

It is in such instances of anemia due to faulty diet that a change to an adequate well-chosen diet is of the greatest value. No doubt a diet rich in green vegetables, fruit, and red meat is a desirable adjunct to the treatment of any form of anemia, but alone it is curative only in truly nutritional and chlorotic anemias. Even in these one must often add iron, and perhaps liver as well to obtain rapid improvement. When the diet has been grossly abnormal, one is really treating the cause of the anemia in restoring the patient to a satisfactory regimen. As a rule, however, the wide margin of safety in the diet of this country makes it unlikely that an anemia has a strictly nutritional basis. Furthermore, in many cases it will prove easier to supply iron directly than to disturb a patient's fairly reasonable dietary by forcing foods supposed to be rich in iron. There is no good evidence that the iron of food is any more useful than iron administered directly, nor that organic iron is better than inorganic, nor that there is any choice between the ferrous and ferric salts.

Probably the vitamins have little usefulness in the treatment of any anemia unless the diet has been markedly deficient along this line.

With regard to the use of liver in the treatment of secondary anemias in general, it may be said that the evidence is rapidly accumulating to prove that the various extracts so valuable in the treatment of pernicious anemia are of relatively little value. Whole liver is far more effective in secondary anemia and should be employed in large amounts and in conjunction with iron. The newer liver extracts for use in secondary anemia have great promise, but have not yet proved their practical value.

Specific Erythropoietic Stimulants.—It is interesting to recall that all of the liver therapy of pernicious anemia grew out of studies of the effect of various foods upon experimentally produced secondary anemia. From this beginning we have seen the progression from whole liver to a great variety of liver extracts, fetal liver, hog's stomach, ventriculin, and extracts of bone marrow and spleen. We know the startling efficacy of various of these in pernicious anemia, but we are still far from sure about their action in secondary anemia. Which are helpful and in which form of secondary anemia? On the whole, the results have been disappointing. Whole liver has been most efficacious, but perhaps the answer has been found in the isolation of a new fraction of liver potent in certain secondary anemias, although not so in pernicious anemia.

On a theoretical basis one might assume that those instances of secondary anemia whose blood picture most closely resembled pernicious anemia would be most benefited by the extracts potent in pernicious anemia. This is not the case, but it is true that benefit is most often obtained with these extracts in those instances of apparent secondary anemia which, through lack of recognized cause, one must term cryptogenic or idiopathic.

In an article about a year ago, Murphy[8] of Boston expressed amazement at the dearth of accurate information to determine the most effective treatment of the so-called secondary anemias from various causes. He then outlined the treatment for six different types of secondary anemia. This is the crux of our difficulties: secondary anemia is not a single disease, it is a symptom of many diseases, a condition brought about by many causes. There never will be one effective therapy for all secondary anemia. Should an extract be obtained which proved to be effective in stimulating blood formation in chronic secondary anemia, it would often fail unless the cause of the anemia was discovered and treated. In fact such an extract would do harm in that by its available efficacy it would lead to a less insistent search for the etiology of the anemia. In the final analysis the only true treatment of a symptom is the treatment of the causative condition.

CONCLUSIONS

We must bring this review to an end even if we have but inadequately covered the important subject of secondary anemia.

1. Secondary anemia is only a symptom, but it handicaps the sick, delays convalescence, and takes the zest of life out of many supposedly healthy persons.

2. Before making the diagnosis of secondary anemia, one should be sure to rule out the various other special forms of anemia.

3. The diagnosis—secondary anemia—implies a cause. Every effort to discover this cause must be made.

4. To treat secondary anemia and neglect the cause is stupid and criminal.

5. To treat the cause and neglect a severe secondary anemia is to increase the risk of wasting your efforts and the patient's time.

6. Severe secondary anemia is the strongest indication for blood transfusion.

7. Both cause and anemia should be treated in even the mildest case.

8. Diet alone should be expected to cure anemia only when the previous diet has been grossly abnormal.

9. When iron is to be administered, use a simple form but in large doses.

10. Do not employ the preparations intended for the treatment of pernicious anemia in secondary anemia. Use either whole liver or a preparation intended for use in secondary anemia.

11. Do not expect one form of treatment to act in all forms of secondary anemia.

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ENDOMETRIOSIS*

By Alice F. Maxwell, M. D.
San Francisco

Discussion *by Robert Glenn Craig, M.D., San Francisco; John C. Irwin, M.D., Los Angeles.*

GYNECOLOGIC literature of recent years contains no finer example of scientific research than is presented by the histologicoclinical studies upon the subject of ectopic endometrial tissue. Despite the general interest in the matter, so far the question of origin of this tissue has not been settled nor has terminology been determined. The frequency, wide distribution, variation and severity of symptoms demand identification and proper treatment of these lesions.

ORIGIN OF ENDOMETRIOSIS

Endometriosis, endometrioma, endometrial adenoma, müllerianoma, chocolate cysts, hemorrhagic perforating cysts of the ovary, Sampson's tumors and adenomyoma are a few of the synonymous terms applied to tissue resembling uterine mucosa histologically and functionally which is found elsewhere than in the uterine cavity. Although early writers (von Rokitansky, von Recklinghausen, Russell and Pick) had described tissues in the ovary and uterine musculature which were an exact prototype of uterine glands and stroma, Cullen, in his publications on adenomyoma of the uterus (1896) laid the foundation of our knowledge of endometriosis when he demonstrated that these tumors were invasive growths of the uterine mucosa. Following the appearance of Sampson's monumental work in 1922, new interest in the subject was stimulated which has furnished many interesting facts.

THEORIES OF ORIGIN

Von Recklinghausen ascribed the origin of the glandular elements of adenomyoma to embryonic rests of the Wolfian body or Müllerian duct.

Sampson has advanced the theory that pelvic endometriosis develops, not from embryonic rests, but from bits of endometrium or tubal epithelium which have escaped from the uterus or tubes during menstruation as a back spill and have attached and developed on the ovaries from which other transplants are broken off. He has emphasized: that implantation depends upon menstruation; that menstrual blood containing bits of endometrial glands and stroma are often seen coming from the fimbriated ends of the tubes during operations performed during menstruation; that the tubes are usually patent despite extensive pelvic adhesions (330 out of 342 women (Sampson)); the frequent association of endometriosis with conditions tending to favor backflow of menstrual blood, i. e., retrodisplacements and fibroids; and that transplants are usually found on the portion of the ovary where it is in direct contact with the tube. That menstrual mucosa is viable and can grow has been shown by successful inoculation of uterine mucosa on the pelvic peritoneum of rabbits and monkeys with the production of typical endometrioses (Jacobson). Moreover, Sampson has found menstrual mucosa actually growing in the venous sinuses of the uterus, and Cron, by recultivation, has kept such tissue alive in vitro for a month. Sampson, while strongly advocating the importance of the backflow of menstrual blood as cause of ectopic endometrium, has also demonstrated dissemination of this tissue via lymph and blood spaces, the same channels employed in the spread of cancer, and admits that metaplasia of coelomic mesothelium may create certain types of endometriosis.

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The serosal theory is based upon the common origin of all the genital epithelia from the modified peritoneum of the urogenital folds. Hence the germical epithelium of the ovary, follicular epithelium, the invagination of the Müllerian ducts to form the endosalpinx, endometrium, endocervix and vagina have a common ancestor in the peritoneum. Factors which determine normal regional differentiation of the coelomic epithelium are not known, nor are its developmental potentialities exhausted, for in adult life further differentiation into endometrium and endosalpinx may occur identical with those produced in the embryonic phase. This theory is substantiated by finding in ovarian endometriosis all stages of development through which the epithelium passes, namely, that resembling the lining of the tube, endometrium with few glands and little stroma to the typical adult type with or without menstrual activity. If this be true, the ovary then is the point of origin rather than the intermediary host for the implantation of endometrial-like tissue.

EXCITING CAUSE OF GROWTH

Whatever the origin of these growths, the question as to the exciting cause that stimulates their activity is of much interest. Some investigators have referred to it an inflammatory irritation, the majority attribute the stimulus to biologic or chemical reaction referable to an excess of ovarian hormones.

DISTRIBUTION OF TUMORS

The distribution will be appreciated by enumerating its topical manifestations. Ovarian endometriosis usually presents as single or multiple small bluish purple areas on the surface of, or deeply situated in the gland, the color being due to the presence of tarry or cholocate colored retained menstrual blood. The cysts range in size from tiny dots to masses 15-20 cm. in diameter. Microscopically the tissue resembles uterine mucosa and reacts similarly to the menstrual stimulus with discharge of blood and desquamation of epithelium. Should tension or trauma cause the cyst to rupture, the contents scatter on the pelvic structures, initiate a peritoneal irritation with the formation of dense adhesions and begin a new growth that may invade the peritoneum, bowel, bladder and maintain the same vicious characteristics while the adnexa of one or both sides may be involved, the tubes are usually patent—a mystifying feature when the process was attributed to pelvic infection. The lesion may cause complete destruction of the ovary with dangerous adhesions to the bowel or may cause little local change and retrogress readily. Moreover, the frequent presence of endometrial tissue in the ovary may be a fertile source of ovarian neoplasms. Sampson believes that many nonmalignant cyst adenomas may have originated from this source. The commonest form of ovarian carcinoma closely resembles that of the uterus, which suggests that cholocate cysts with their retained chemically changed solutions may play an important part as an etiologic factor in ovarian malignancy.

Endometriosis of the uterus (adenomyoma) and uterine horns are too well known to be described. Rectovaginal endometrioses may be associated with similar ovarian lesions or occur independently. These tumors were formerly diagnosed as rectal cancer and caused the so-called "inflammatory stricture" of the rectum. Beginning as a small nodule back of the cervix, it invades the surrounding cellular tissue, bowel and may even encircle the ureters and occlude the rectum; vaginal involvement is shown by polypoid masses back of the cervix which bleed during menstruation.

Endometriosis occurs in the broad ligament, round ligament, especially in the extra peritoneal portion, as nodules of the labium which may become markedly invasive and be confused with sarcoma; in femoral and inguinal hernias; on the appendix which may cause right-sided pain with catamenia; on loops of the bowel, especially of the sigmoid rectum, where as hard elastic tumors they may simulate carcinoma; occasionally in the bladder where they cause dysuria and hematuria; in the umbilicus as small hard tumors which may discharge blood periodically from the navel, as menstrual fistulae in abdominal scars following laparotomy for pelvic operations, or appendectomy, and finally on the perineum and anterior vaginal wall, areas where metastatic nodules from fundal carcinoma are often found.

Symptoms.—Symptoms will depend naturally upon the structures involved, the extent of their invasion and the degree of peritoneal irritation. Abnormalities of menstruation are usually present, *i. e.,* acquired dysmenorrhea (70 per cent of cases); menorrhagia and metrorrhagia (50 to 60 per cent). Lower abdominal ache or pelvic fullness aggravated by the catamenia are frequent complaints. Constipation, rectal bleeding and dysuria coincident with the menstrual cycle are suggestive. Sterility is a very common complaint. Menstrual fistulae in laparotomy scars, or from the umbilicus, rectovaginal thickening and purplish vaginal nodules back of the cervix are characteristic findings.

The diagnosis will be made more often if the condition is kept in mind, for if careful inspection is made of the undersurfaces of the ovary and the peritoneum of the cul de sac, pelvic endometriosis is a surprisingly common finding. Sampson has found the lesion in 43 per cent of abdominal operations performed upon women between the ages of 30 and 50. Our own observations confirm this finding. The association with uterine fibroids and malpositions with the above symptoms are most suggestive.

Pelvic inflammatory disease may offer considerable difficulties in differential diagnosis; for the symptoms and pelvic findings (broad ligament masses, fixation and tenderness of the tissues, adherent, retroflexed, often myomatous uterus) are characteristics common to both conditions. The absence of an etiology for pelvic peritonitis or external stigmata of infection, the normal white blood count, and sedimentation time should indicate the basic pathology. Fibroids, ovarian cysts, appendicitis and carcinoma are not infrequent pre-operative diagnoses.

TREATMENT

Ectopic endometrial lesions are acquired accessory uteri and are dependent for their activity upon ovarian stimulation as is shown by their menstrual response, decidual reaction, and retrogression after withdrawal of the ovarian hormone. This relationship is the keynote of the treatment. Surgical procedures are entirely dependent upon the extent of the disease. The age of the patient and her desire for conservation should be considered, and here the patency of the fallopian tubes may be the deciding factor of the situation. At times, resection of the ovary may not only retain function but may even restore fertility, especially if complicating fibroids are removed, uterine malpositions are corrected, and all transplants are excised. Experience has shown, however, that conservative measures are often unsuccessful from a symptomatic standpoint. When the ovaries and pelvic peritoneum are extensively damaged, hysterectomy and removal of the adnexa are demanded to effect a cure. Myomectomy for uterine endometriosis (adenomyoma) is often feasible, for the growths are usually single and rarely of large size. Rectovaginal endometriosis, because of its invasion, may pursue a devastating course with resultant intestinal obstruction. Previous to the identification of this condition, bowel resection was the only resort; at present the recognition of the dependence of the lesion upon ovarian stimulation gives us the proper lead, and removal of the uterus and adnexa are followed by striking retrogressive changes and relief of symptoms. However, atrophied rectovaginal endometriosis has the same potentialities for malignant changes as has senile uterine endometrium or ovarian endometrial tissue. The treatment for discrete endometrial lesions of the round ligament, umbilicus, laparotomy scars, bladder and vagina, is excision; recurrences may depend upon the complicating pathology. Radium, although capable of causing ovarian atrophy, is rarely applicable because pain from the adhesions and fixation of the organs demands mechanical procedures to effect relief.

In conclusion, this problem of endometriosis presents much of practical interest to the gynecologist. If endometrium may be disseminated as a spill through the tube, the same holds true for cancerous endometrium and surgical technique must be modified in many important ways. Gentleness in palpating the uterus is necessary, especially if cancer is suspected. Curettage, particularly when done as form of *treatment* for leukorrhea, is not only illogical but may be actually dangerous. Even diagnostic curettage should be done only in doubtful cases and with great care. Uterine packing and radium applicators may act as a block and force normal or malignant endometrium through the tubes. The frequent occurrence of endometriosis after salpingectomy or salpingotomy (Sampson found thirty in thirty-six patients) suggests that the tube should be severed by the cautery and the stump should be buried in the uterine cornua without clamping or piercing it with sutures, and finally, in performing hysterectomy for fundal cancer, the least possible manipulation and the prompt closure of channels through which material may escape from the uterus offer the best chances of permanent cure. The fimbriated ends of the tubes should be ligated at once, the ovarian vessels, round ligaments and uterine vessels should be doubly ligated and cut between; and the vagina should be clamped below the cervix before removing the uterus.

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DISCUSSION

Robert Glenn Craig, M. D. (490 Post Street, San Francisco).—Dr. Alice Maxwell has given us an excellent presentation of this subject, placing the emphasis on the transplantation theory, which is probably true in the majority of the patients. On this basis she has given some excellent practical suggestions whereby we may lessen our own responsibility in causing the transplants at the time of operation.

Since Sampson's most careful and thorough work in 1921, we have had repeated articles from him emphasizing the transplantation theory and pointing out to us the frequency of this disease. The difficulty in explaining the extraperitoneal lesions have been overcome by stating that the endometrium is transplanted through the lymphatics. Free endometrium in the fallopian tubes has been found and counted as strong evidence that this endometrium was on its way from the uterus to the ovary, although in all of these patients endometrium was already present in the ovary and might just as easily, if not with more ease, be going in the reverse direction. In addition, this has usually been found between menstruation and is not menstruating endometrium. The recent work with vital stains and tissue culture both point to the low viability of the endometrium at the time of menstruation, which adds another obstacle to this theory.

Undoubtedly operative procedures opening into the uterine cavity are not infrequently followed by endometrial growths as is evidenced by their postoperative occurrence at the uterine cornu and in the operative scar. It is imperative for us to remember this at the time of operation if we are going to prevent their occurrence. Dilatation of the cervix with Hegar dilators have always seemed dangerous in view of this theory, and for this reason I prefer Goodall dilators.

I am willing to accept this transplantation theory as an explanation in many patients, but from an etiological view, think some credence must still be given to misplaced Müllerian tissue or to hyperplasia of the endothelial tissue of the peritoneum—the "Serosal Theory of Iwanoff."

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John C. Irwin, M. D. (1709 West Eighth Street, Los Angeles).—In a short but thorough paper, Doctor Maxwell has given us a very lucid discussion of an important subject. If we accept Sampson's statement, that this lesion is found in 43 per cent of the women operated between the ages of thirty and fifty years, it becomes a matter of extreme importance to the pelvic surgeon. Indeed any lesion that is so common as these findings indicate, is little short of alarming.

Naturally Sampson, in doing research in this field, has carefully examined all cases for it. Personally, I have not found nearly so high an incidence as his. This divergence may be attributed to the fact that I have not made a careful search for the lesion in patients operated for other pathology.

The German and Austrian investigators seem firmly convinced that the condition is due to Müllerian embryonic rests. The finding of the lesion inside the ovary and in other organs where transplants would not have access causes them to cling to this theory. I believe, however, to most of us Sampson's transplant theory seems the more logical, especially when we consider that the migration may be through lymph and blood vessels.

In the light of our present knowledge I think we should accept Sampson's theory as to etiology, and observe the precautions, as outlined in this paper, tending to minimize the incidence of the lesion. To these precautions I would make an addition. In doing tubal insufflation with gas after the Rubin technique and injection of lipiodol for salpingography, one should wait at least five to seven days after the end of menstruation before carrying out the procedure. This would allow the uterus to expel all menstrual products from its cavity and thus minimize the danger of forcing such products into the peritoneal cavity.

The points of surgical technique enumerated are particularly instructive and reasonable. The complete ablation of the internal genitals in extensive endometriosis, involving rectum or bladder and other important organs, is certainly to be recommended. Since the ovary is the periodic activator of the growth, its removal should and does cause the desired regressive change. Therefore, the ovary must be sacrificed even in young individuals at times, when the growth involves important structures in an invasive and destructive manner.

PNEUMONIA IN CHILDREN*

WITH COMMENTS ON THREE HUNDRED AND SEVENTY-FIVE CASES

By E. Earl Moody, M.D.
Los Angeles

Discussion *by S. J. McClendon, M.D., San Diego; Edward S. Babcock, M.D., Sacramento; Phillip E. Rothman, M.D., Los Angeles.*

It may be said that a review of a series of cases such as contemplated is needless in view of the great amount of data already accumulated regarding such an old disease as pneumonia. Yet it has occurred to the writer that such a review will be of value to the pediatrist as well as to the general practitioner. It is of great value to all of us to take stock in trade from time to time and by doing so get a new perspective. In our daily practice we see a case of pneumonia which is more or less properly diagnosed, and with more or less indefinite treatment it gets well either with or without a complication. Or it reaches a fatal ending and so becomes just another case history. It is only by assembling the data from a large series of cases that we are able to get a refreshed picture or possibly a new picture of the disease. So with this thought the writer undertook the task of analyzing some three hundred and seventy-five cases of pneumonia in children at the Los Angeles General Hospital.

The pneumonia service at this hospital is probably one of the largest, if not the largest, of such services on the Pacific Coast. Because of peculiarities of population, character of climate and method of hospitalization, some very interesting data have been accumulated. New methods of treatment or new scientific data did not come within the scope of this paper.

THE MEXICAN POPULATION OF LOS ANGELES

Los Angeles has the second largest Mexican population of any city in the world, being exceeded only by Mexico City. There is also a very large Mexican population in the county which further swells the number this hospital serves. It was the good fortune of the writer to have spent a year in housing work under the Los Angeles Housing Commission before he studied medicine. Here was gained first-hand information concerning the insanitary methods of living of these people. There are few robust individuals among them. They eat improper and insufficient food. They live under the most crowded conditions, often two or three families crowding into two or three rooms in spite of the vigorous objections of the health authorities. Ventilation and fresh air are things they shun. They reproduce their kind unto a point of exhaustion of the mother. The children are raised among filth and dirt, being most intimately acquainted with flies.

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* A review of three hundred and seventy-five pneumonia cases at the Los Angeles General Hospital, Unit One, for the year July 1928 to July 1929.

* Read before the Pediatric Section of the California Medical Association at the fifty-ninth annual session at Del Monte, April 28 to May 1, 1930.

Under such conditions it is impossible to raise children with any degree of resistance against disease. They, as a race, seem to have an inherent fear of hospitals and only are such institutions utilized when death is near at hand. These facts make the complexion of the data somewhat different from similar compilations in other parts of the country.

CLIMATE IN SOUTHERN CALIFORNIA

It has been advertised far and wide that the climate of Southern California is such that disease tends to be of a less severe nature than in other communities less favorably situated. I have lived and practiced my profession for quite a number of years in Los Angeles and I have been under the impression that diseases of a respiratory character were of a much less severe nature here than in other parts of the country. Yet when I am faced with the facts of this review I fear that I have been laboring somewhat under a delusion.

FACILITIES FOR CARE AT THE LOS ANGELES COUNTY GENERAL HOSPITAL

I consider the facilities at the Los Angeles General Hospital, Unit One, for housing of pneumonia cases in children as near ideal as is possible to find in any general public hospital. Quarters are furnished in the contagious building, where wards are large, airy, filled with sunshine, and never overcrowded. With the unit system of nursing and care thrown around each patient, cross infections are very rare indeed. I consider the nursing care in this building to be the best of the entire hospital. Ample space is provided for open-air treatment of the lobar cases and for sunshine and air during convalescence.

The period of time under review saw a mild epidemic of influenza and may have changed somewhat the situation from other years. However, it seemed from experiences of other years on this service, without having the data at hand for comparison, that the disease in question ran similar to other years except for an increase in a number of cases.

LOBAR AND BRONCHOPNEUMONIA CLASSIFICATIONS

For the purposes of this paper we have kept to the older, more familiar, classifications of lobar and broncho pneumonia. As yet no classification has been worked out that is satisfactory from all standpoints. A pathological differentiation is not fit for the bedside clinician except as it gives him a mental picture of the diseased condition that is going on in the patient whom he is diagnosing and treating. Bronchopneumonia is many times secondary to other infectious diseases, though many times it is a primary condition. After serving the pneumonia wards for a number of years and after studying these charts, I have almost reached the conclusion that all types of pneumonia are merely a part of a general respiratory infection. Red throats were almost the universal rule. Otitis media was so common as to be expected in nearly every case. The history of some sort of respiratory infection was found in almost 100 per cent of cases. The postmortem proved that many cases of diagnosed lobar pneumonia were of the broncho type and involved the whole lobe or multiple lobes. The only accurate classification is the pathological one which can only be made at postmortem. This, however, is of little value to the bedside practitioner of medicine in making his diagnosis. I am sure, however, that we will be understood when we classify our cases as lobar and bronchopneumonia.

Most of us pride ourselves on the fact that, after a certain amount of experience, we think we can tell to a fair degree of accuracy the condition in a child's chest during a course of pneumonia. Yet when we have our diagnosis checked by the court of last resort—the postmortem examination—how sadly disillusioned we frequently are. Even the x-ray fails us all too often. Crozer Griffith,[1] in a candid and eye-opening article, reported twenty-six cases of pneumonia which had been classified clinically, diagnosed by x-ray, and examined at autopsy and found that the triple diagnosis agreed in only six of the twenty-six cases. In the remaining twenty cases the clinical diagnosis was confirmed in only nine instances, the x-ray diagnosis in only six cases, and in five cases neither was correct.

EVALUATION OF DIAGNOSTIC PROCEDURES

A similar condition exists at the Los Angeles General Hospital. Eighteen of this series were studied in which a clinical diagnosis was made that was acceptable to the clinician. X-rays were made, and postmortem examinations completed the picture. In only five of these did the three agree. In the remaining thirteen cases the clinical diagnosis was confirmed in only seven cases. One case was diagnosed lobar pneumonia which at postmortem proved to be empyema, which had not been recognized at the bedside. In five cases the clinician said that there was no pneumonia, yet all these revealed a bronchopneumonia at autopsy. So we see that the clinical diagnosis agreed with the autopsy findings in only eleven of the eighteen cases.

The x-ray did not fare as well as did the clinician. In only the five cases mentioned above was the x-ray diagnosis correct. In one case the x-ray diagnosis was lobar pneumonia and the postmortem revealed an empyema, which case was likewise missed by the clinician. One case, diagnosed as lobar, proved to be bronchopneumonia. In eleven cases the x-ray reported no pneumonia. However, in fairness to the radiologist, it should be stated in four of these cases the picture was taken longer than forty-eight hours preceding death. In all of these missed cases the bronchopneumonia was an early one. From these figures I think we can conclude with Griffith that the accurate diagnosis of a condition in the chest is still a very difficult one in many cases. Also that the x-ray is not the last word in diagnosis, and that in the early case the clinical picture and course gives the most accurate estimate of the condition.

Table 1.—*Analysis and Comparison of Cases*

	Griffith	L. A. General General
Diagnosis of pneumonia, clinical, x-ray, autopsy	26	18
Clinical and x-ray diagnosis agree	10	8
Of these both diagnosis incorrect	4	4
Clinical and x-ray diagnosis disagree	16	10
Of these clinical diagnosis correct	9	8
X-ray diagnosis correct	6	1
Both incorrect	1	0
Cases in which differences of the three methods existed	20	13
Clinical diagnosis correct	9	7
X-ray diagnosis correct	6	1
Neither correct	5	4

ANALYSIS OF CASES UNDER REVIEW

Sex.—During the period of review there were 375 cases of pneumonia in children at the Los Angeles General Hospital, 195 males and 180 females.

Season.—These cases, as was to be expected, were scattered throughout the year, by far the greatest number in winter and the least in summer. The influenza was at its worst during October, November and December, yet January, February and March showed more pneumonia than did the influenza months.

Lobar and Bronchopneumonia.—If we can rely on our diagnosis, there were 114 cases of lobar pneumonia as against 261 of the broncho type, or a ratio of 1 to 2:28. If we refer to Griffith's article again, we find he states that the differential diagnosis between broncho and lobar pneumonia is too often dependent on the view of the individual examiner. He quotes from seven different observers who report a total of 2679 cases in which the ratio between lobar and bronchopneumonia varies between 1 to 0:31 and 1 to 6:00. Therefore, keeping in mind these figures and those quoted above in which the diagnosis was proved by autopsy, I cannot be brave enough to tell you our ratio is a fair proportion between these two types of pneumonia for the Los Angeles district.

Age Periods.—The segregation of the cases into age groups is interesting. The average age of all patients was forty-seven months. The average of the lobar patients was six years. The youngest lobar patient was twenty-one days, as proved by autopsy. In this type of disease 6.9 per cent were one year or under. Fourteen per cent occurred during the second year. It is quite possible that a goodly number of this last age group diagnosed as lobar pneumonia were bronchopneumonia. Thirty-four per cent of all lobar pneumonias were three years of age. Morgan,[2] in reporting 398 cases of lobar pneumonia from Toronto, said that 16 per cent of his patients were under one year of age and that 19 per cent were between one and two years, while 47 per cent of his cases were under three years of age.

In checking the age of the bronchopneumonia patients, we find that 44 per cent were under one year with 23 per cent of the total number being six months or less. Fourteen per cent were one to two years of age. This was the exact percentage of the lobar pneumonias of this age group. Seventy-nine per cent of all our bronchopneumonia patients were under three years of age. Comparing Morgan's[3] figures again with a report of 205 cases of bronchopneumonia, we find 47 per cent of his patients were under one year of age, as against 44 per cent in our series. His figures for the second year were 24 per cent, as against 14 per cent in our figures. Totaling all his patients under three years of age, we find it to be exactly the same as ours, namely, 79 per cent.

Table 2.—*Comparison of Age Groups*

	Lobar		Bronchopneumonia	
	Morgan	L. A. General Hospital	Morgan	L. A. General Hospital
Total of all cases	379	114	205	265
Under six months	......	1.7%	......	23%
Under one year	16%	6.9%	47%	44%
One to two years	19%	14%	24%	14%
Under three years	47%	34%	79%	79%

Race and Nationality.—It is interesting to note that the Mexicans of Los Angeles County furnish 59 per cent, or 212, of the total number of cases. Whites furnish 34 per cent, negroes 5 per cent, and all others 2 per cent.

Illness Prior to Admission.—The little patients were sick at home for an average of five days before they entered the hospital. Their average stay in the hospital was eighteen days.

COMPLICATIONS

Otitis Media.—Of the complications, otitis media was the most common, occurring in 128 cases, or 34 per cent. Thirty-two per cent of all bronchopneumonias, or eighty-four cases, showed purulent ears, and 38 per cent, or in all forty-four, of the lobar pneumonias presented the same condition. There were twenty-four cases of empyema or an incidence of 6.4 per cent.

Pertussis and Other Diseases.—In the secondary cases of pneumonia, pertussis was the most common primary condition, being found in forty-four patients. If an accurate diagnosis of influenza could have been made and this finding recorded on the chart, there is no doubt but that this would have been the most common primary condition. Diphtheria accounted for nine cases, tuberculosis for six cases, scarlet fever for five cases, malnutrition for four cases, and premature birth for three cases. In the series nearly every one of the common diseases of childhood could be mentioned as a primary cause of bronchopneumonia.

However, there were many cases of bronchopneumonia which could not be attributed to any primary condition.

Empyema.—The empyema patients were transferred to the empyema service and did not come under this department for treatment. It is worth while to give a few facts gleaned from the review of these twenty-four cases. The average hospital stay was forty-seven days, the longest being one hundred and twenty days, and the shortest sixteen days. It was the fifteenth day of stay in the hospital before the average case was diagnosed. One case was not diagnosed either by the clinician or the radiologist until autopsy.

In the beginning the treatment of these cases consisted of first aspiration, by which method only one patient recovered. The closed method drainage by use of the Mazingo tube and Carrell Dakin solution irrigations was next tried, and was used in eighteen patients. This treatment accounted for a cure in only five cases. Rib resection was done last and accounted for a cure in thirteen patients and seemed to offer the best treatment after the abscess had become well walled off. The charts indicate that the patients did better after free drainage was instituted. However, the small number of deaths may be attributed to the late rib resection, thereby allowing firm adhesions to be formed before the chest was opened. There were only three deaths, or a rate of 12.5 per cent. One of these three patients was evidently foredoomed to die because he developed, during his stay in the hospital, diphtheria, hemorrhagic nephritis, and purulent pericarditis. It is possible that, if a second of these three patients had been recognized and treated, it might have been saved. This death rate will compare very favorably with the very low figure of 11 per cent reported in a series of thirty-four cases of empyema from the St. Louis Children's Hospital.[4] It must be remembered that the treatment of an empyema is never an emergency, and if routine rib resection is the usual treatment, a delayed diagnosis has probably saved a good many lives. We note above that the fifteenth day was the average day of diagnosis. Six days later was the average day of inserting the Mazingo tube. It was not until the average of the thirty-ninth day that a rib resection was done. The patients were entirely healed at the average of the thirty-ninth day after operation.

Urinalysis and Blood Count.—We found that 3.6 per cent of the total pneumonia patients ran sugar in the urine at some time during their acute illness. These all cleared up before the patients reached their convalescence. The presence of sugar in these patients is not explained. In the pertussis pneumonias the blood counts ran unusually high. It was not uncommon to have a white count as high as 135,000 with 75 per cent lymphocytes. The average count in the pertussis pneumonias was 33,250 with 66 per cent lymphocytes. This is very close to the average reported by Morgan,[5] namely, 32,500 with 53 per cent lymphocytes.

Tuberculin.—The Mantoux tuberculin test was used routinely in all cases and was positive in six per cent. These figures cannot be claimed as accurate because the interns often failed to record on the charts the results of the test. We assumed that where the test was done and the result not recorded, the test was negative.

RESULTS

The interesting part for the patients in any series, is how many get well. Unfortunately all too few of our patients had this happy outcome. There were 112 deaths in this series, or a death rate of 29.8 per cent. If we deduct the sixty-six noninstitutional deaths (those patients dying within forty-eight hours after entry into the hospital) there are left forty-six institutional deaths, or a corrected rate of 14.8 per cent. The noninstitutional deaths were 59 per cent of the total deaths. There were eleven deaths in the 112 cases of lobar pneumonia. This is a rate of 9.6 per cent. There were 101 deaths among the bronchopneumonias, which gives a rate of 38.7 per cent. There were fifty-nine noninstitutional deaths in this type, and if these were deducted it gives us a corrected rate of 20.8 per cent.

Comparison of the death rate figures can never be very accurate under our present criterion of diagnosis. Disparity of figures can be accounted for in several ways, namely, various age groups, error in diagnosis, and variety in virulence of the infecting organism. Morgan,[6] in his report of 398 cases of lobar pneumonia, reported a death rate of 9.3 per cent for all ages. He gives Holt's figures as a rate of 4 per cent for all ages. The Chicago Pneumonia Commission reported in 1924 a rate of 7.6 per cent for all children under four years of age. If we include all the deaths from lobar pneumonia at the Los Angeles General Hospital, Unit One, we find the rate is practically the same as Morgan's, namely, 9.6 per cent. If we use only the institutional deaths in our figures the rate is less than that of Holt's, namely, 3.7 per cent.

We see a wider range of disparity in the bronchopneumonia cases. Morgan[7] reported 205 patients with a death rate of 57 per cent. He reported Holt's figures as 461 cases with a rate of 65.5 per cent. Morrill with 325 cases with a rate of 48 per cent, and Pisek and Pease with 451 cases with a rate of 41 per cent. The Chicago Commission reported a rate of 23.4 per cent in children under four years of age. If we accept all the deaths occurring at the Los Angeles Gen-

TABLE 3.—*Comparison of Death Rates*

1.—Lobar Pneumonia

	Morgan	Holt	Chicago Commission	L. A. General Hospital
Number of patients	398	......	......	114
Rate	9.3%	4%	7.6%	9.6% all cases 3.7% institutional cases only

2.—Bronchopneumonia

	Morgan	Holt	Chicago Commission	Morrill	Pisek and Pease	L. A. General Hospital
Number of patients	205	461	......	325	415	261
Rate	57%	65.5%	23.4%	48.3%	41%	38.7% all cases 20.8% institutional cases only

eral Hospital, Unit One, we have a rate of 38.7 per cent. If we exclude the noninstitutional deaths, we have a corrected rate of 20.8 per cent.

In pneumonia, secondary to pertussis, we had a death rate of 50 per cent. In Holt's figures for such cases we see a rate of 81.8 per cent. Other reports run as low as 45 per cent. An illuminating fact concerning the severity of pertussis in young children is that the average age of these unfortunate children who died was 7.4 months, the oldest being eighteen months and the youngest one month.

Seventy-five per cent of all the deaths occurred in Mexican children. We will recall that only 59 per cent of the total cases of pneumonia were Mexicans. The white race furnished only 18.7 per cent of the total deaths, and the negroes 6.2 per cent. Another astonishing fact is that 80 per cent of the noninstitutional deaths were found among the Mexicans. You can now see the significance of my earlier remarks concerning the Mexican population and its contribution to the complexion of this review. It is because of this Mexican population that I feel justified in deducting the noninstitutional deaths from my compilation, for in doing so I felt that it would give a fairer idea of what pneumonia really is in the southern portion of the state. The astonishing high death rate among the Mexicans, both in and out of the hospital, I feel is a direct result of their heredity, environment, and the almost complete lack of care for their sick children until death is about to overtake them.

Postmortem examinations were obtained on 47 per cent of our patients who died. If there had been a higher average obtained it is possible that the whole complexion of our figures might have been altered. An explanation might be in order as to why not more than eighteen cases appear in the study reported above. It was the routine order to have an x-ray taken of all pneumonia patients for diagnosis and a final one before discharge of the patient. In those patients dying a few hours after entry to the hospital it was not expedient to obtain x-ray pictures. Films were obtained in 279 of the cases.

No effort was made to type any of the cases of lobar pneumonia. Because of the low death rate, I believe it is not the general procedure to do so in most cases of pneumonia in children. The difficulty in obtaining the sputum is the greatest drawback to such a procedure. Then again the laboratory work entailed would throw another burden on an already overworked force.

TREATMENT

No new or experimental type of treatment was used in this series of cases. Our treatment was entirely symptomatic. A great deal of emphasis was placed on sufficient intake of fluids. Oxygen was used frequently in severe dyspnea with cyanosis. This was delivered through the nasal catheter. Stimulants were not routinely ordered. Caffein was the stimulant most commonly used, with whisky playing a close second. Digitalis was not used routinely, and was reserved only for those cases showing a decompensating heart. It had not been the custom until this last winter to put the lobar cases out of doors. Due to the great number of patients last winter, we were forced to put an awning over the sun porch. Our lobar cases were then moved out in the open air. It was surprising to see how rapidly these patients became more comfortable. Sleep was more restful. Breathing was not so labored. I could not see that it shortened the disease any or that the temperature range was lower. But certainly the comfort of the patients was increased and this factor must be an aid in recovery.

CONCLUSIONS

If there are any conclusions to be drawn from what has been here presented, let us note:

1. It pays to give good care to children in building up their resistance against infections with proper hygiene, good food, and proper inheritance.

2. Early hospitalization will lower the death rate to a marked degree.

3. The death rate in pneumonia in children is probably slightly lower here than in other sections of the country with a less favorable climate.

4. An accurate diagnosis in pneumonia, even with the aid of the x-ray, is still a difficult and uncertain procedure.

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DISCUSSION

S. J. McClendon, M. D. (2001 Fourth Street, San Diego).—Statistical papers are always of interest, particularly if they bring out facts which may be of practical importance in our daily work. Doctor Moody's paper presents in a very convincing manner the fact that pneumonia is prevalent in southern California. Another striking feature brought out by his statistics, which is confirmed by our smaller series at the San Diego County Hospital, is the high percentage of mortality from pneumonia among Mexican children. In a series of fifty cases of pneumonia in children, forty patients, or 80 per cent of the patients, were Mexicans, and of the eighteen deaths (35 per cent) in our series, all were among the Mexican children. This study should show us that diet, hygiene, and sanitation have something to do with the development of pneumonia and the course of the disease, although ignorance of the value of early intervention plays its part.

I am glad that Doctor Moody has pointed out the necessity for early hospitalization and has not tried to stress any new treatment of the disease. I am also glad that he has presented the point of difficulty in diagnosis of the particular lesion, even with the aid of the x-ray.

I wish Doctor Moody would tell us, if he has the statistics available, what percentage of cases were treated with antipneumococcic serum and whether or not it had any favorable action on the course of the disease.

Edward S. Babcock, M. D. (1127 Eleventh Street, Sacramento).—In a relatively small series of fifty consecutive, hospitalized cases of pneumonia seen in private practice in Sacramento, some rather interesting data were obtained. Sixty per cent were diagnosed bronchopneumonia. In this group, 26.6 per cent were under one year; 46.6 per cent were under three years; 40 per cent had otitis media; 6.6 per cent had empyema; 63.3 per cent had some degree of abdominal distention; 6.6 per cent died. Of the total fifty patients, 40 per cent were diagnosed lobar pneumonia. Of this group, 10 per cent were under one year; 40 per cent were under three years; 30 per cent had otitis media; none had empyema; 55 per cent had abdominal distention; and 5 per cent died. The percentage of patients, with abdominal distention is mentioned because it is frequently one of the early symptoms of pneumonia and has often helped me to make a diagnosis.

These figures compare fairly well with those Doctor Moody has given us except in two respects. First, the lower percentage of cases of bronchopneumonia under three years in the private practice group, and secondly, the lower death rate in this group than in the county hospital group.

Of course, a larger series or one extending over a number of years, including an influenza epidemic, would probably give a higher death rate. However, since diseases such as rickets, malnutrition, and anemia are much more common among the poorer classes, the death rate found in county hospitals should be much higher than that in private institutions.

I often wonder how many pneumonia patients die from overtreatment and whether our death rates would not be lower if our treatment consisted of only absolute rest, careful nursing, and forced fluids (parenterally given if necessary) and less inhalations, mustard plasters, medication, and handling. Of this series of fifty patients none were given any cathartic; twenty-four received no medication of any kind; thirteen received phenobarbital for restlessness; twenty were given diathermy chiefly for relaxation and abdominal distention.

The x-ray findings in pneumonia are most interesting, especially when we consider the newer theories of the causation of some types of pneumonia and the rapidly changing pathology in the chest. Frequently lobar pneumonia is diagnosed from the film a day or two before physical signs of consolidation can be made out and, again, the reverse is true. If repeated films were taken I do not believe there would be such wide variations in the comparative findings between x-ray and physical signs.

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Phillip E. Rothman, M. D. (925 Pacific Mutual Building, Los Angeles).—For a great many years pediatricians have been interested in the clinical differentiation between lobar and bronchopneumonia. The problem is not simply one of scientific interest, but its solution will be of the greatest help in aiding us to make a reasonably accurate prognosis in any case of pneumonia. Statistics such as Doctor Moody and others have collected show very definitely that lobar pneumonia in childhood is a relatively benign disease carrying a mortality of only 5 to 10 per cent. Bronchopneumonia, on the other hand, has a very high mortality, and according to most observers it is over 50 per cent. This type is also characterized by serious and often permanent sequelae, whereas lobar pneumonia tends to resolve completely without any lasting damage. Contrary to prevailing views, lobar pneumonia is by no means a rarity under two years of age, but of course occurs less frequently than bronchopneumonia. During this age period the mortality in both types is higher, but that of lobar, according to McNeil, is trifling (only 14 per cent), contrasted to bronchopneumonia, which is over 60 per cent. The confusion is due to the fact that scattered areas of consolidation in both lungs may, on histological examination, prove to be a croupous pneumonia, whereas a localized area confined to a portion of one lung and producing a homogeneous shadow in the x-ray may show at autopsy the characteristics of bronchopneumonia. Our total fund of information derived from the history, clinical course, physical findings and x-ray pictures is still insufficient to enable us to accurately differentiate the two forms in many cases. This was emphasized particularly by Griffith in the article mentioned by Doctor Moody. The prognostic value of the statistics will be helpful only after we have more exact methods at our disposal for the diagnosis of the various types of pneumonia.

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Doctor Moody (Closing).—In reply to Doctor McClendon, would state that we did not use any antipneumococcic serum in this series of cases. No attempt was made to type any of the patients, and we felt that the use of the serum without typing would be of little value. No specific treatment was tried on any of the patients.

We quite agree with Doctor Babcock that often too much treatment is given to pneumonia patients. Symptomatic treatment with good nursing was the only method pursued on our service, and we feel that the results justify this procedure. I do believe that if more frequently x-ray pictures were taken perhaps there would be fewer disagreements in diagnosis than do now exist. It is questionable whether this better diagnosis, in view of our limited means of treatment, would help the condition of the patient much or improve his chances of recovery.

We all feel, with Doctor Rothman, that a more accurate method of diagnosis of the types of pneumonia is needed. Perhaps some day, through closer study of our cases, this method will be worked out

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CHOLECYSTECTOMY—NEW METHODS IN ITS TECHNIQUE[*]

By Stanley H. Mentzer, M. D.
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During the past thirty years the mortality from cholecystectomy has decreased from 30 to less than 6 per cent in most of the large clinics in this country. This decrease may be ascribed to several reasons, the major one being, probably, earlier operative intervention. In addition, the cases for surgery have been selected more carefully, the pre- and postoperative treatment has been improved, and changes in the technique of cholecystectomy have been made. Although improvements in technique account for a relatively small percentage of the mortality decrease in biliary surgery, nevertheless, they represent an important contribution. It would seem that the methods of surgically attacking the gall bladder have become fairly well standardized, and yet it is probably true that there can be no standardization in surgery. Even during the last two years, changes have been made in the methods of handling patients with gall-bladder disease. It is for this reason that the writer is presenting his methods that are now in use at the University of California Medical School.

PREOPERATIVE DIAGNOSIS

If we review for a moment the improvements in our methods of handling patients with gall-bladder disease, we should consider first, it seems to me, the preoperative diagnosis. This includes not only the diagnosis itself but the selection of cases and the methods that shall be used for each individual patient.

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[*] From the department of surgery, University of California Medical School, San Francisco.

[*] Presented at the Nevada State Medical Association meeting, Reno, Nevada, September 26, 1930.

In the diagnosis of biliary disease, the clinical history is the most important single factor. It must be carefully and accurately taken and the physician should not be a scribe in its taking. He should carefully evaluate the various factors presented by the patient and analyze them critically. Medical students are constantly making the mistake of accepting the impressions of the patient as facts, and this, of course, has led to many errors. The relation of pain to food, its duration and time of appearance, the type of distress, its localization and radiation and the manner of relief are important. Gas in the form of belching or flatulence must be carefully interpreted. Qualitative food distress seems to present the greatest difficulty. Biliary colic is fairly easy to recognize and does not enter so much into our diagnostic problem.

One of the problems of today in the diagnosis of gall-bladder disease is the Graham-Cole x-ray. It is undoubtedly of great value and it probably has increased the accuracy of gall-bladder diagnosis 25 per cent. However, it is responsible for a good many errors, especially in instances in which the x-ray depicts gall-bladder disease when later operative or autopsy work demonstrates that there is no pathology in the gall bladder. In a series of one thousand cases of cholesterosis of the gall bladder which Judd and the writer studied, the roentgenologist diagnosed gall stones in eight per cent of the patients in whom they were absent, and overlooked them in more than 35 per cent of the cases. Since that report in 1926, the roentgen diagnosis has improved considerably, but even during the last year errors have been unduly high.

PREOPERATIVE CARE

Few persons are able to pass through the strain of major abdominal surgical experiences without adequate preoperative preparation. We are expecting too much when we request the patient to enter the hospital the day of his operation. One or two days in bed at the hospital permits of psychic adjustments to one's surroundings, of body rest, and of means of securing an adequate quantity of body fluids and glucose. At the same time a careful physical examination is remade, usually by the intern, when the heart, lungs and kidneys are rechecked. In jaundiced patients liver function tests are of some value. If iodeikon is given intravenously for the Graham-Cole x-ray, it may be used at the same time as a liver function test. Although many patients with gall-bladder disease object to candy as a method of storing glucose, a pound of chocolate creams is usually urged on each patient the day before operation. Glucose may be given also in the form of sugar solutions, or in grapejuice, chocolate, or malted milk.

The danger of prolonged bleeding in jaundiced patients is still an experimental problem. The laboratory has not demonstrated a lack of either diffusible or nondiffusible calcium in the blood serum in patients that are jaundiced, no matter how high the icteric index. Clinical experience, however, has demonstrated the value of calcium salts in decreasing the bleeding time in these cases. Therefore, the writer still gives five cubic centimeters of ten per cent calcium chloride intravenously daily for three days before the operation as recommended by Walters.

A salt and soda enema is given the morning of the operation. The writer no longer uses a soap enema because of the proctatitis that is so frequently demonstrated at autopsy after its use. Three grains of amytal are given the night before operation, and five grains one and a half hours before operation. Amytal lessens emotional shock, aids the patient in securing a good night's rest, and is moreover an antidote for novocain poisoning. The type of anesthesia that is to be used is explained to the patient, for the writer has had the misfortune of starting an operation under spinal and have the patient vigorously object because he was not asleep while on the operating table. If the patient demurs against spinal anesthesia, I give avertin rectally in the patient's room about twenty minutes before the operation is scheduled. This anesthetic aids materially in performing upper abdominal surgery under nitrous oxide anesthesia. It has proved very satisfactory and the writer has had no serious complications following its use. Ether anesthesia is only rarely used because of the burden it inflicts upon the liver. This organ probably carries the major portion of the shock of any operative procedure and ether anesthesia increases that burden.

OPERATIVE PROCEDURE

Lumbar or spinal anesthesia is the method of choice. Its use has unquestionably lowered the mortality of biliary surgery. Two hundred and forty milligrams of neocain or three hundred milligrams of novocain crystals usually suffice for a two-hour anesthetic. It may be introduced into the third or fourth lumbar space. Six cubic centimeters of spinal fluid are withdrawn and the novocain crystals dissolved in it. When thoroughly mixed the novocain-spinal fluid mixture is gently injected into the subarachmoid space and the patient is immediately placed in a moderate Trendelenberg position.

An ampoule of three-fourths of a grain of ephedrin sulphate is administered subcutaneously fifteen minutes before the spinal anesthetic is given. Patients having a blood pressure of 110 or less, and patients in whom more than 200 milligrams of novocain are to be given are administered an additional ampoule of ephedrin one-half hour previously.

Morphin is not administered before the spinal anesthetic although it is sometimes given to patients who are unusually nervous during the course of the operative procedure. If nausea or

TABLE 1.—*Gall-Bladder Operations*

Pathologic Diagnosis	Number of cases	Chole-cys-tectomy	Cholecys-totomy	Average days in hospital	Mortality
Acute cholecystitis	0	0	0	0	....
Acute on chronic cholecystitis	4	4	....	13	....
Acute hydrops	6	5	1	14	....
Acute empyema	9	6	3	16	....
Acute gangrene	2	2	....	19	....
Perforation	4	2	2	18	....
Subacute cholecystitis	4	4	....	14	....
Cholesterosis	6	6	....	13	....
Cholesterosis with stones	8	8	....	14	....
Chronic cholecystitis	9	9	....	14	....
Chronic cholecystitis with stones	36	33	3	16	....
	—	—	—		
Totals	88	79	9		0

vomiting occurs, the administration of oxygen often relieves the patient. Oxygen plays a further part in that it allays psychic fear. A patient who finds the operating room atmosphere intolerable will often relax and sleep from the amytal, if oxygen has also been administered. Apparently the presence of an oxygen mask and the flow of gas is sufficient to relieve the mental tension.

One thousand cubic centimeters of normal salt solution or Hartmann's solution are given subcutaneously in the thighs almost routinely during the operative procedure. A gall-bladder elevator is not used, inasmuch as adequate exposure can be obtained without it. Its use seems to cause a considerable part of postoperative backache.

The incision may be one of several, the major requisite being adequate exposure. The high right rectus incision or the Mayo-Robson or Bevan modifications of it are satisfactory. The transverse Sloan incision has become deservedly popular. I prefer the Judd modification of the Kocher incision which begins at the ensiform cartilage and extends laterally a distance of twenty centimeters or so parallel to and about an inch below the costal margin. The muscle fibers of the rectus are split but if necessary can be sectioned without fear of postoperative herniation. A thorough exploration of the abdomen is then made.

If it is determined that cholecystectomy is advisable, the round ligament of the liver is severed between clamps and the Mentzer self-retaining abdominal retractor is inserted into the wound. This instrument was devised for gall-bladder surgery and probably finds its greatest use in this region, but it has proven of great value in pelvic surgery and other abdominal surgery, as well as in kidney work and in posterior resections of the rectum. It promises to be an aid in lung surgery. It eliminates the use of the first assistant's hands for retraction and maintains constant adequate exposure without the use of retractors in the hands of the second assistant. The round ligament of the liver is used for traction to evert the undersurface of the liver. It is secured in the fixed clamp on the retractor. The two small blades of the instrument are inserted against the liver on each side of the gall bladder. The intestines are packed off and retractors placed against the transverse colon, the stomach and lateral abdominal wall. When the retractor is extended, good exposure is obtained, provided, of course, adhesions have been previously freed. Patients have vomited and struggled on the operating table and yet the exposure maintained by this instrument has not been disturbed. Moreover, after exposure is once effected, no further trauma is inflicted to the tissues by changes in retracting hands due to fatigue or alterations in position of retracting instruments.

If no self-retaining retractor is available, exposure is effected by an assistant. This is one of the most difficult yet important steps in biliary surgery, and trained assistants are necessary for satisfactory exposure.

The next step is accurate identification and isolation of the cystic duct and artery. Many of the catastrophies of gall-bladder surgery are due to failure to heed this necessity. Flint has shown how frequently anomalous ducts and arteries occur and I have found anomalous ducts alone in ten per cent of bodies at necropsy. The duct and artery should, if possible, be ligated separately because of the danger that mass ligation affords for sloughing. Two separate ties of chromic number two catgut are applied to both the cystic duct and artery.

The dissection of the gall-bladder is carried out from below upward in most instances. The writer believes it is superior to removing the gall-bladder from above downwards, for one is less likely to sever anomalous ducts, especially those leading from the right hepatic duct into the cystic duct or into the side of the gall-bladder. Preservation of the liver bed is effected by injecting normal salt solution between the peritoneum and wall of the gall bladder in the liver fossa. The local edema thus produced permits of easy and accurate separation of the gall-bladder from the liver and allows a peritoneal flap of one or more centimeters which may be sutured together to cover the exposed liver tissue.

Drains are avoided as much as possible. In about 15 per cent of the cases a small rubber dam or a Penrose drain with the gauze removed is inserted into the liver fossa and led out of the abdominal wall through a lateral stabwound. Stab-wound drainage lessens the danger of wound contamination. Drainage is not necessary if the ducts have been carefully isolated and identified, and if the hepatocystic ducts in the liver bed have been tied. Of course, if the gall-bladder is acutely infected or bile has exuded during the operation drainage is indicated.

POSTOPERATIVE TREATMENT

In the postoperative care of the patient nothing is given by mouth for at least forty-eight hours. A ten per cent solution of glucose in one per cent salt is given intravenously twice a day and normal salt subcutaneously so that the patient receives at least 3000 cubic centimeters daily for the first two days after operation. Fluids are then started orally and the patient is maintained on a fluid diet for one or possibly two days. Soft foods are given for the next week.

Flatulence is controlled by glycerin suppositories and a rectal tube. Enemas and flushes are avoided as much as possible. A large electric bake or turpentine stupe help a great deal and pituitrin is given when necessary. Fluid is not given by rectum unless it be salt solution, which is well absorbed, for it has been recently shown that glucose is not absorbed from the rectum. Fluids given by rectum stimulate reverse peristalsis and, therefore, increase flatulence.

This regimen has been most satisfactory and in this series eighty-eight consecutive gall-bladder operations are presented without a death (Table 1). Some of these patients entered the San Francisco Hospital with well-advanced lesions. There were four perforations, two gangrenes, and nine acute empyemas of the gall-bladder in this relatively small total series. The absence of operative mortality cannot continue, of course, but if it should remain low it would seem that our present methods are worthy.

450 Sutter Street.

FRACTURE DISLOCATIONS OF THE LOWER CERVICAL SPINE*

REPORT OF CASES

By H. W. Spiers, M. D.
Los Angeles

Discussion *by N. Austin Cary, M. D., Oakland; E. W. Cleary, M. D., San Francisco.*

The progress of surgery in fractures and dislocations of the spine has lagged somewhat behind that of the extremities. Not so long ago a fracture of the spine was universally of grave import. If there were no cord symptoms it was good fortune; if there were no nerve root complications it was still better fortune, but the surgeon rather expected a high degree of impaired function and prepared the patient and his friends for a lifetime of at least partial disability.

PRINCIPLES OF REDUCTION SAME FOR FRACTURE OF SPINE AND EXTREMITIES

Accurate reduction of a fracture or dislocation of an injured extremity has become axiomatic, but this does not seem to be the case in the spine. The fundamental principles of fracture surgery apply equally to the spine. As such, traction and countertraction, placement of the distal fragment in line with the proximal, and immobilization, till healing has taken place, are just as applicable in fracture surgery of the spine as elsewhere.

Davis and Dunlop[1] [2] have pointed out similar methods for reduction and realignment of fractures of the lumbar spine. Recent articles by Langworthy[3] and Taylor,[4] have demonstrated successful procedures for handling the cervical spine. Simultaneously, a method has been used by the writer for reduction and care of cervical dislocations and fractures, which seems worthy of consideration in that it has several points of advantage to both the patient and to the surgeon.

Neurological surgeons are quite agreed that actual cord destruction cannot be cured. They are also agreed that the actual amount of destruction cannot be told by the symptoms which immediately follow the injury. They are not agreed as to the value of radical surgery immediately following cord and nerve root damage. The consensus of opinion of the most prominent authorities is, that laminectomy is rarely justified by its results. Such surgery will not enter this discussion, since it is my experience that it holds out very little to such patients.

RELIEF OF PRESSURE ON SPINAL CORD OBJECT OF TREATMENT

The object of treatment is to relieve cord or nerve root pressure, and to immobilize the parts. It is my feeling and experience that reposition and maintenance of the displaced bones or fragments offers by far the most hope in minimizing both the immediate and remote results. It would seem beyond dispute that the trauma and pressure due to angulation, or to the narrowing of the bony spinal and root canals, is best relieved by the normal reposition of the bones or fragments which cause the pressure.

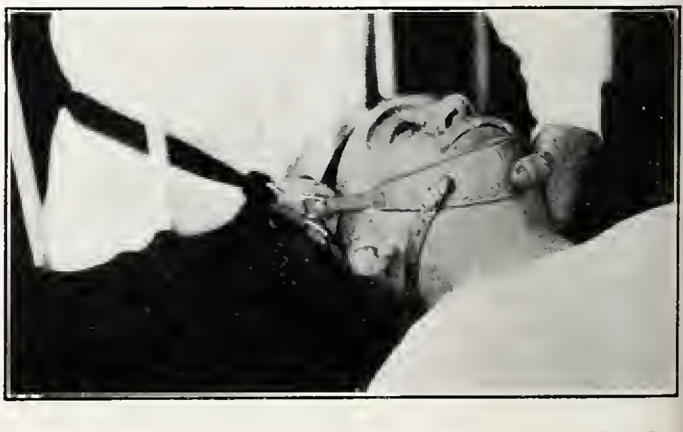

Fig. 1.—Sayre head sling in place with traction band about hips of operator.

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* Read before the Industrial Medicine and Surgery Section of the California Medical Association at the fifty-ninth annual session at Del Monte, April 28 to May 1, 1930.

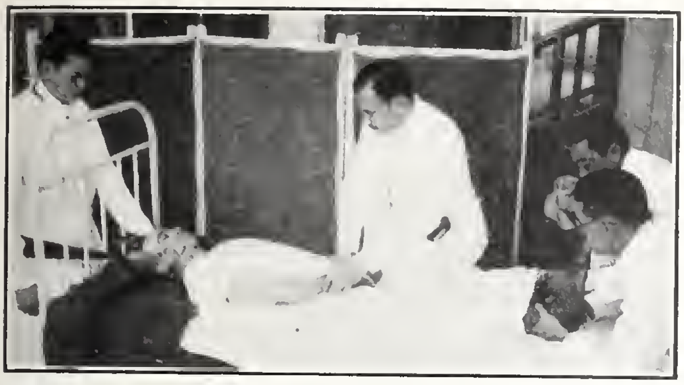

Fig. 2.—Traction and countertraction before manipulation.

A fracture dislocation of the cervical spine is most frequently caused by a fall on the head, flexing and twisting the cervical vertebrae violently beyond their normal range of motion. Little need be said of the mechanism of the injury. Any violence sufficient to lift even one articulating facet from the other causes considerable damage. It is my experience that the articulating facets are fractured more often than even the x-ray can demonstrate. This is reasonable when one considers the tremendous ligamentous support with which nature has provided the vertebrae.

The symptoms presented may be mild or grave, depending largely upon the amount of cord or nerve root damage. The more nearly the injury approaches the medulla the more serious the prognosis. Immediate death is frequent in injuries in the upper segment. Sensory and motor disturbances are wholly dependent on the amount of temporary or permanent damage to the cord or nerve roots. The symptoms vary from the gravest picture of total sensory and motor paralysis from the shoulders downward, to only a painful stiff neck or mild upper extremity neuritis. There can be no doubt of the diagnosis in the grave case, but in the less severe case only a roentgen-ray study will completely reveal it. Anteroposterior views are deceptive. Stereoscopic ones are but little better. Good lateral views are imperative and they are hard to get, particularly in the low cervical region.

All varieties of fractures and fracture dislocations may occur throughout the cervical segment. The atlas and axis, by their specialized shapes and functions, present many peculiar variations of damage. My clinical experience in this region has been limited, as few patients who sustain fracture dislocations in this area live for treatment. By far, the most frequent area in the cervical spine for such pathology to take place is that of the fifth, sixth, and seventh cervical vertebrae. Here, as one would expect, the greatest leverage takes place. The series that I will present later all took place in this region.

TREATMENT PROCEDURES

The method of treatment is simple in that the cardinal principles of reduction of fractures are followed. First, the patient, as soon as possible after the diagnosis is made, is anesthetized fully on a hard bed, the one in which he is going to remain. A pad is placed under the shoulders that the head may be manipulated and hyperextended without interference. Second, a head traction halter is placed on the head. This is attached at each side to a band running through the head of the bed and around the surgeon's hips. The surgeon, with his knees against the head of the bed, thus has powerful traction possibilities completely in his control and his hands are left wholly free. Assistants at the foot manipulate the patient's feet or arms for countertraction. Third, with the muscles completely relaxed by the anesthetic, a steady traction is begun. The surgeon, with his free hands can, if necessary, manipulate the vertebrae and head in any desired direction. Reduction is accomplished in the large majority of cases, without much traction and with moderate manipulation. I have tried to figure out in each patient just what manipulation is necessary to accomplish reduction with the least trauma. Theoretically, forward and lateral flexion of the head and neck away from the locked facet is correct. Practically, this does not always release the locked facet, a fact probably due to the impossibility of predetermining all the pathological factors present. A distinct snap, which often may be heard and, in my experience, always felt by the surgeon's hands, accompanies reduction.

A lateral x-ray film is at once taken at the bedside and developed. A point of advantage here, to both the surgeon and x-ray technician, is that the patient is relaxed and the head and shoulders are well separated. A good film is readily secured. If reduction is successful, the traction, already in place, is transferred to pulley weights. From five to six pounds is usually sufficient. Excess weight is unnecessary and adds to the patient's discomfort tremendously. Sandbags beside the head steady it and are helpful. The patient is left as he is for about three weeks, then a molded cast of the shoulders, neck, and head is made without in the least disturbing his position. This is immediately removed and a model made from it and a modified Thomas collar developed. The ordinary Thomas collar I have found not quite sufficient. It allows too much forward flexion of the head and neck. This has been overcome by carrying spring steel bands down the back to be attached to chest straps. The upright position, if not contraindicated by other disability

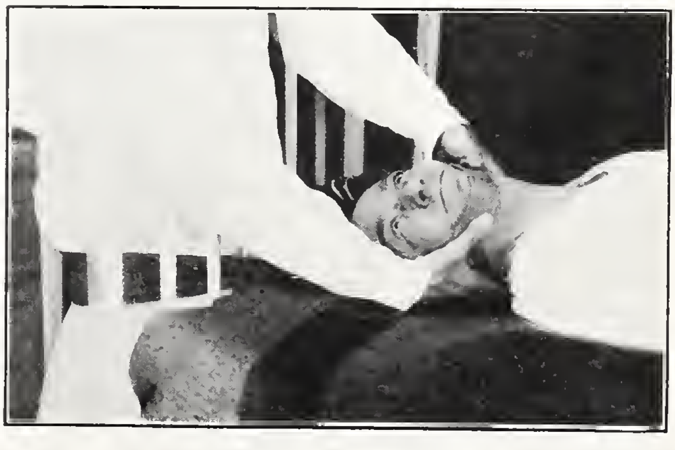

Fig. 3.—Traction applied. Manipulation of the neck by the operator's free hands.

factors, is now assumed. After a few weeks, physiotherapy is begun. The patient usually makes his maximum recovery in from four to six months.

The advantages of this method over others, advocated by recent textbooks and articles, seem to me about as follows:

1. The patient is treated in the bed in which he is going to remain permanently, almost as soon as seen, and the diagnosis made. Delay with increase of tissue damage if pressure exists, and the danger of loss of reduction by necessary change from table to bed, and careless handling, is obviated.

2. No cast is applied. The discomfort of such is considerable. Vomiting and retching in a neck cast after an emergency anesthetic has been given, with the patient usually unprepared, carries with it real possibilities of asphyxiation and pneumonia.

3. No specialized apparatus is necessary; everything needed can be secured almost anywhere. To apply a plaster neck and head cast which is at all satisfactory on a patient, requires much apparatus and expert knowledge of its use.

4. Reduction and immobilization is accomplished at the earliest possible moment, a fact that may mean immediate life-saving, as well as lessening the remote disability factors.

REPORT OF CASES

In a period of two years I have had seven cases. There have been three deaths—one the fourth day from respiratory paralysis with a completely crushed cord. One other, an insane patient, died in about four weeks after complete motor and sensory recovery. She took off her traction, fell out of bed and reproduced her lesion, dying shortly thereafter. The third lived many months, following a partial cord destruction, and died of bladder and kidney complications. The other four made complete anatomic and functional recoveries.

Case 1.—R. M. Age, forty-three. Admitted to Los Angeles General Hospital July 21, 1928. The previous day, he was thrown from a car to the pavement, striking on back of neck and on left shoulder. He had immediate severe pain in back of neck, but did not lose consciousness. He got up, but could not move his head because of pain and rigidity of neck muscles. On entrance to the hospital he complained of pain in both arms, particularly in the left, with numbness throughout it, and marked weakness in abduction and marked tenderness over region of fifth cervical vertebra. The biceps reflexes were absent with reduction in the left deltoid response. There was slight impairment of tactile sensations, but no cord symptoms.

X-ray examination showed anterior displacement of fifth cervical vertebra on the sixth, with locking of articular facets. A head traction with six pounds weight was applied for three days by the resident without improvement. When he was seen on the third day an anesthetic was immediately given and reduction accomplished by horizontal traction and manipulation. An x-ray following, showed complete reduction. Three weeks later, a plaster collar model was made, and the collar was applied ten days later and patient allowed to be up. With daily physiotherapy treatment to the left arm and shoulder, there was rapid improvement in the left deltoid action. The function of the forearm and hand improved slowly. Six months after the injury the collar was discontinued. The patient, seen one year after the accident, had returned to his work with 90 per cent, or better, of full function.

* * *

Case 2.—A. S. Age, thirty-four. Admitted to Los Angeles General Hospital August 20, 1928. This patient, who was insane, had on the previous day jumped from a moving car, striking on her head on the pavement. She was restless, noisy, and irrational, but there were no pathological reflexes with the exception of a suggestive Babinski. It was impossible to determine accurately motor or sensory involvement because of the patient's condition. It was evident that there was involvement of the nerve roots to the arms, but no cord symptoms.

The x-ray showed a forward displacement of the fifth cervical on the sixth, with locking of the articulating facets. The following day, under an anesthetic, reduction was accomplished by horizontal traction and manipulation. Continuous six-pound traction was applied. She progressed nicely for about three weeks. All sensory and motor disturbance seemed to have cleared up. During the night she removed her traction, got out of bed and was found on the floor. Examination showed she had a complete paralysis of the legs, absent knee-jerks, and positive bilateral Babinski reflexes. There were only slight motor responses in the upper extremities. Urinary retention was present. X-ray check-up demonstrated redislocation of the fifth cervical vertebra. She died at the end of the fourth week. Autopsy examination report stated hypostatic pneumonia with cord degeneration below region of the fifth cervical vertebra.

* * *

Case 3.—E. M. Age, forty-nine. Admitted to Los Angeles General Hospital October 7, 1928. He was in an auto accident the previous evening and remembered nothing of how he was injured. Examination showed an almost complete motor and sensory paralysis from the shoulders downward. Both arms could be abducted slightly; sensation was present over a limited area in the upper arms.

The x-ray showed an anterior luxation of the fifth cervical on the sixth, crushing of the superior articular facet, and lateral mass on the left side of the sixth cervical. On the second day an anesthetic was given and reduction accomplished by horizontal traction and manipulation; traction continued with six pounds weight. There was considerable return of motor and sensory function in the arms and a lesser amount in the lower extremities. There was bladder and bowel incontinence. At the end of about one month he began to fail and became irrational at times. He died at the end of the nineteenth week. The autopsy showed a terminal pleuropneumonia; also partial degeneration of the spinal cord from the level of the fourth cervical downward.

* * *

Case 4.—J. C. Age, sixteen. Referred by Dr. Elmer Anderson. Entered Hollywood Hospital November 1, 1928. He was injured in a football game about 3:30 p. m. and was seen at the hospital forty-five minutes later. He was rational. He stated that he immediately lost the use of his arms and legs following his accident. There was a complete flaccid paraplegic and complete anesthesia below the sixth cervical cord segment. Reflexes were absent.

The x-ray showed a forward dislocation of the fifth cervical with articulating facets interlocking. Under immediate ether anesthetic, reduction was accomplished in about ten minutes by horizontal traction and manipulation. Check-up x-ray showed complete reduction of dislocation, and head traction was continued with five pounds weight. The following morning the upper arms could be moved and sensations as far as the elbow were present. Three days later he developed a sudden respiratory paralysis and died. The autopsy showed extensive cord necrosis in the region of the fifth cervical vertebra.

* * *

Case 5.—C. S. Age, thity-six. Referred by Dr. William T. Cain. Admitted to Hermosa Hospital December 31, 1928. Injured in automobile accident December 28, 1928. The symptoms were: pain and rigidity in the neck, numbness in right index finger and thumb, weakness of entire right arm, and pain along outer border of right arm.

The x-ray showed a forward dislocation of fifth cervical on the sixth. Six days following the accident, under ether anesthesia, reduction was accomplished by horizontal traction and manipulation. Traction was continued till the end of the third week, when a collar was applied. At this time the arm and hand symptoms had completely disappeared. An x-ray showed callus along the anterior border of the fifth and sixth vertebral bodies. The collar was worn for four months and discarded. He has remained well, with full function to date.

* * *

Case 6.—M. C. Age, thirty-four. Referred by Dr. Charles H. Peppers. She was injured the previous evening by falling against a dresser. There was immediate pain and muscle spasm in the neck and pain and numbness in the left arm and hand.

X-rays showed a forward dislocation of sixth cervical on the seventh, with comminuted fracture of anterior border of sixth cervical vertebra and fracture of spinous processes of sixth. Another surgeon attempted head traction and manipulation under anesthesia. X-ray check-up showed improvement, but not complete reduction. There was a slight improvement in arm sensations during next three days. On the fourth day, again under ether anesthesia, with horizontal traction and manipulation, reduction was accomplished. Check-up x-ray showed complete reduction. There was marked relief of arm symptoms the following day. Head traction was continued with decreasing weight for three weeks, when a collar was fitted and the patient was allowed to get up at the end of the fourth week. Six months following injury, the collar was discontinued and the patient returned to her former occupation without disability or symptoms.

* * *

Case 7.—E. W. Age, fifty-eight. Referred by Dr. H. E. Peterson. Was seen at San Fernando Hospital September 11, 1929. Was in automobile collision the previous evening. His head was not hit, but was whipped forward violently. He had pain and numbness in right arm and hand, and pain and rigidity in the neck.

X-ray showed forward dislocation of fifth cervical vertebra on the sixth. Under anesthesia, with horizontal traction and manipulation, reduction was accomplished, as revealed by check-up x-rays. This was followed by head traction with five pounds weight and was continued for three and a half weeks, when a modified Thomas collar was fitted and patient was allowed up. Two months later, collar was still being worn and patient was still under treatment. No neuritis was present. He is now caring for his business and is apparently cured.

CONCLUSIONS

1. It would seem from this small series that fracture dislocations of the cervical spine can be reduced and reduction maintained by a simple method.

2. That the danger of the method is at least no greater than others, and has several points of increased safety and comfort.

614 Westlake Professional Building.

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DISCUSSION

N. Austin Cary, M. D. (2939 Summit Street, Oakland).—The method of applying traction in reducing fracture dislocations of the cervical spine is a valuable modification of methods which we have used and observed for a number of years.

I would like to emphasize the importance of a thorough knowledge of the mechanics of production and reduction of these injuries. This is essential before instituting traction on the cervical spine, as ill advised and purposeless manipulation will give some serious complications.

We prefer to immobilize these injuries immediately after manipulation in a quilted cotton collar instead of using leather or plaster of Paris. These collars are made by enclosing cotton of standard roll thickness between layers of plain rolled gauze, four to six inches in width and about five yards in length. This is then rolled into a bandage and successive layers are wrapped about the neck from below upward, building up a good support. These collars are then snugged up with an additional layer of gauze or outing-flannel bandage. They are comfortably worn and furnish adequate immobilization, and roentgenological check-ups can be made without their removal, a factor of considerable importance in injuries of this region.

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E. W. Cleary, M. D. (490 Post Street, San Francisco).—Doctor Spiers' paper is a valuable contribution to the literature on treatment of fracture dislocations of the cervical spine. His method is simple, practical, and efficient. There seems little to add to what he has said.

At times I have found it expedient to put on a plaster collar under traction as soon as reduction is accomplished. This may prevent, in the case of an irresponsible patient, such an accident as occurred in the case of the insane woman who took off the traction and fell out of bed with a fatal result.

Doctor Spiers' method of applying traction during reduction by means of a bandage circling the surgeon's body, I think particularly clever. I shall use it in the future. I note that Doctor Spiers uses the chin-occiput bearing for traction application. I prefer the brow-occiput application, as I find it equally simple and effective and it has the advantage of leaving the jaw free for mastication.

⁂

Doctor Spiers (Closing).—I wish to thank both Doctors Cary and Cleary for their discussion of this paper.

Regarding the quilted cotton collar method mentioned by Doctor Cary, I have been rather inclined to feel that one could hardly be certain of its efficiency. In a case where there is no tendency to recurrence of displacement, it would undoubtedly be more comfortable.

Doctor Cleary brought out the fact that the plaster cast might be more expedient in the irresponsible patient. I agree with him. My insane case with a fatal termination demonstrates this point well. I am glad the brow-occiput halter was mentioned. It has been my custom to alternate these halters from day to day. Neither, in my experience, is wholly comfortable.

COMPLEX RECTAL FISTULAE—THEIR OPERATIVE MANAGEMENT*

REPORT OF CASES

By Dudley Smith, M. D.
San Francisco

Cases of fistula in ano that have been subjected to operation from one to several times without cure are not infrequent. This is usually due to one or more of the following causes:

1. Failure to find the internal opening.
2. Failure to follow all tracts to their termini and to open or excise them.
3. Faulty after-treatment.

Ordinary fistulae which are not too extensive ought to be cured by one operation if proper technique and postoperative care are employed. It is my opinion that the more complex fistulae ought also to be cured with one operation, unless more than one internal opening exists with tracts running above the external sphincter. These extensive complex fistulae frequently demand considerable boldness on the part of the operator in the matter of sacrifice of tissue, but if fundamental principles are kept in mind and proper technique used, successful results will follow. Stereoscopic x-ray films, taken after the tracts have been thoroughly injected with lipiodol and oil, give the surgeon accurate advance information concerning the tracts to be sought and the extent of the operation.

Preoperative preparation is of especial importance in cases which require extensive dissection. The colon should be thoroughly emptied and a strict nonresidue diet given to insure no passage of feces for at least one week after operation. This can usually be attained by the following regimen:

Three days before operation two ounces of castor oil is given. After this is given, a strict nonresidue diet consisting of fruit juices, sugar, sugar of milk, jello, gelatin, fruit jellies, candy, coffee, tea, and consomme, approximating three thousand calories a day, can be given without difficulty. Copious colonic irrigations of plain water are given morning and evening on the day following the purge and the morning of the day preceding operation. After the last irrigation the camphorated tincture of opium is given in two-dram doses at nine, twelve, three, and six o'clock. This insures a quiet, empty colon, and with a continuation of the nonresidue diet the patient can be carried along for a week or more after operation without defecation.

I prefer to operate under spinal anesthesia preceded by six grains of sodium amytal administered an hour before the anesthetic.

Before any incision is made the tracts are injected with saturated solution of methylene blue. To insure injection of all the tracts a careful technique must be followed. I have found a small canula attached to a Luer syringe best for the purpose. A small strand of gauze is wound around the canula and pressed down against the skin while the assistant draws the skin outward with two Allis or Kocher forceps, one on either side of the fistulous opening, thereby allowing pressure enough with the gauze to prevent backward leakage without obliterating the lumen of the tract, thus insuring easy and complete staining of the entire tract. Other external openings are closed by pressure with gauze while the injection is being made. If during the operation it is found that any side tracts are not properly stained, bismuth paste is used to inject them.

In these complex fistulae of long standing there is usually a large amount of indurated tissue, and I much prefer excision to incision. All masses of indurated, inflamed tissue and scar tissue are usually best removed, for this tissue frequently contains tracts that may be overlooked, and more rapid and complete healing is secured if only normal tissue is left.

The dissection is done with the electrocautery in all of my fistula cases. The cautery has several advantages over the knife and scissors. There is less bleeding, the tracts may be more easily followed, and if the fistulae happen to be tuberculous, healing will follow as kindly as in those due to simple infections.

The wound is packed with gauze at the time of operation, but when this is removed on the third or fourth day no more packing is inserted. The entire tract is painted out daily with hexylresorcinol or mercurochrome, and a vaselined applicator passed through the tract from the rectum to avoid bridging.

Finding the internal opening; thoroughness in the removal of all tracts; removal of sufficient superficial tissue and skin; and proper postoperative care; these will insure success.

REPORT OF CASES

Case 1.—Miss D. O. Mexican woman, age twenty, with annular stricture of the rectum, one inch above the anorectal line; complex fistula in ano with eight external openings on the right buttock, one on the

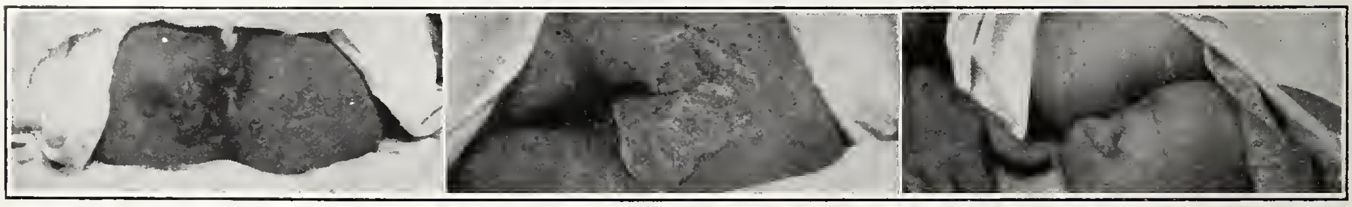

Fig. 1. Fig. 2 Fig. 3

Miss D. O. Fig. 1—Before operation. Fig. 2—After operation. Fig. 3—After healing. No recurrence in two years.

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* From the surgical department, University of California Medical School.

* Read before the American Proctologic Society at Buffalo, June 24, 1930.

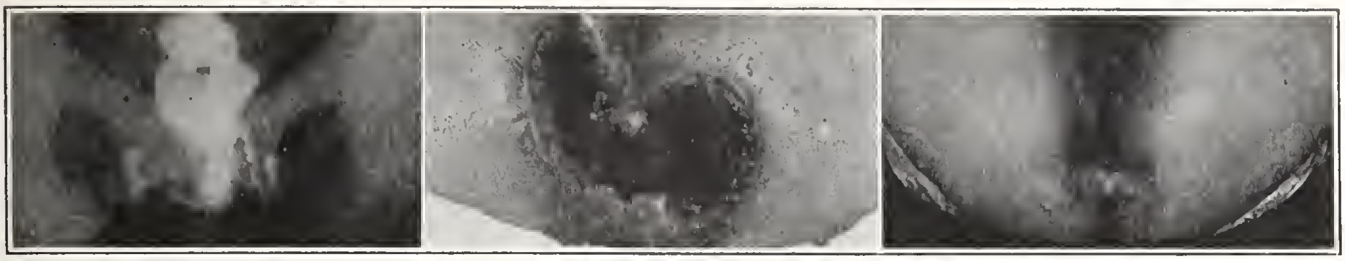

Fig. 4 Fig. 5 Fig. 6

Miss L. P. Fig. 4 shows the tracts injected with lipiodol. Fig. 5 shows the condition three weeks after operation, and Fig. 6 shows the comparatively small amount of scar after complete healing. No recurrence after eighteen months.

left and one over the sacrococcygeal joint; there were two posterior internal openings at the anorectal line, one tract passing under and one tract over the external sphincter. The stricture was incised in three places with the electrocautery and later treated with carbon dioxid snow, and still later by diathermy. The fistula was excised with the electrocautery. Figs. 1, 2, and 3 show this case before and after operation and after complete healing. No recurrence in two years.

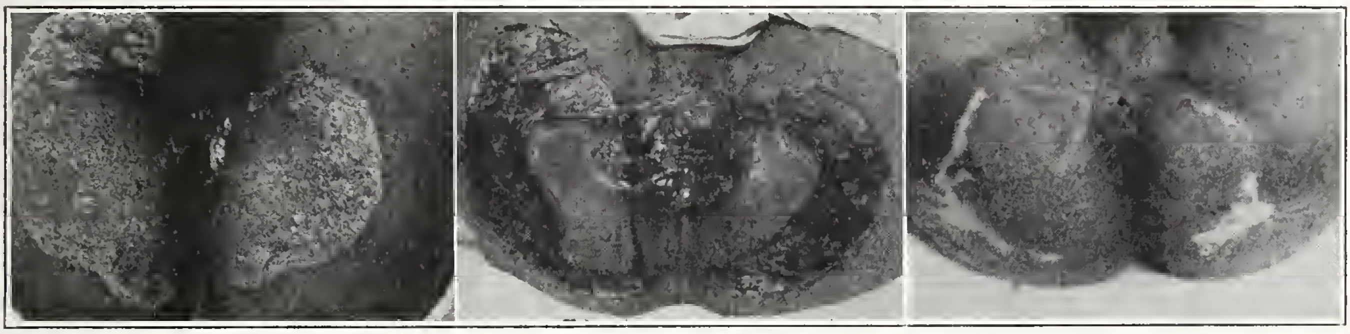

Fig. 7 Fig. 8 Fig. 9

Mr. W. H. Tuberculous fistula in ano with extensive tuberculous skin lesion of both buttocks. Figs. 7, 8, and 9 show the condition before and after operation and after complete healing. No recurrence after five years.

Case 2.—Miss L. P. Age, forty-three. A very extensive complex fistula in ano of twelve years' duration which had been operated upon elsewhere nine times. Fig. 4 shows the tracts injected with lipiodol. There were two external openings, one on either buttock, and one internal opening at the anorectal line, posterior. The tract on the left side ran up to the obturator foramen from which a side tract ran into the vagina; the tract on the right side ran up to the ramus of the pubes; a double tract ran from one external opening to the other, posterior to the anus. There was a great deal of dense scar tissue in this case, all of which was excised with the electrocautery. Fig. 5 was taken three weeks after operation, and Fig. 6 shows the comparatively small amount of scar after complete healing. No recurrence after eighteen months.

* * *

Case 3.—Mr. W. H. Age, forty. A tuberculous fistula in ano with extensive tuberculous skin lesion of both buttocks. Excision of fistulous tracts and skin with electrocautery. Complete healing. No recurrence after five years. Figs. 7, 8, and 9 show the condition before and after operation and after healing.

* * *

Case 4.—Mr. W. N. Age, fifty-two. Extensive fistula in ano of twenty years' duration with several external openings on the right buttock and two on the left; there was one posterior internal opening at the anorectal line. Fig. 10 shows the condition after excision of the tracts with the electrocautery, and Fig. 11 the condition after complete healing. No recurrence in one year.

909 Hyde Street.

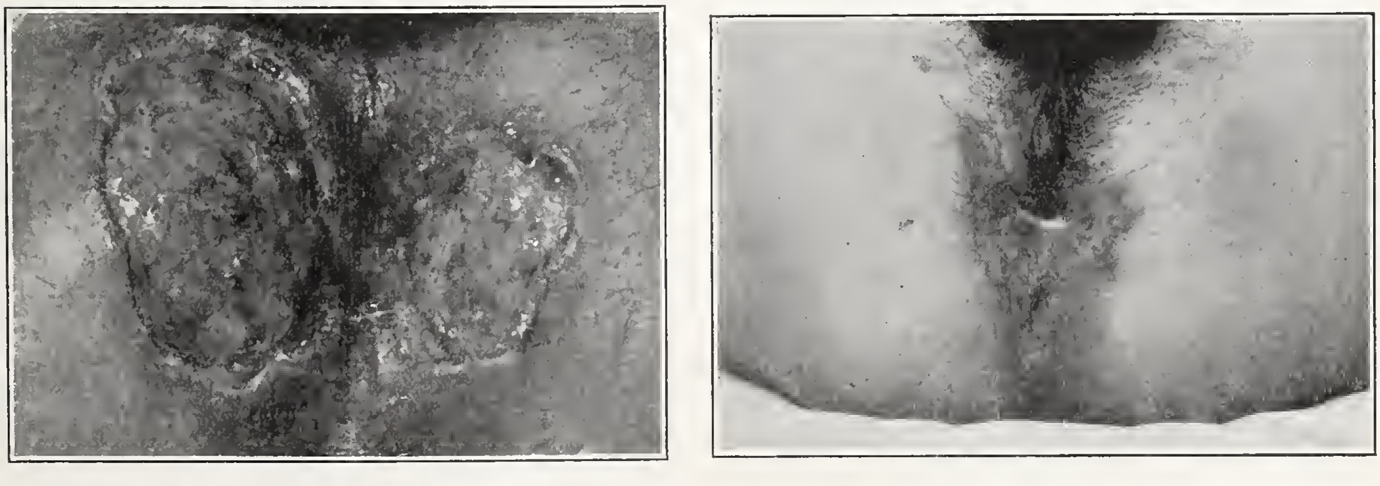

Fig. 10 Fig. 11

Mr. W. N. Extensive fistula with numerous external openings on both buttocks. Fig. 10 shows the condition after excision of the tracts. Fig. 11 shows complete healing. No recurrence in one year.

BRAIN LESIONS WITH HOMOLATERAL PHENOMENA OF PYRAMIDAL TRACT INVOLVEMENT*

REPORT OF CASES

By I. Leon Meyers, M. D.
Los Angeles

Discussion *by Thomas G. Inman, M. D., San Francisco; Samuel D. Ingham, M. D., Los Angeles.*

Intracranial lesions causing damage to a pyramidal tract frequently exhibit the phenomena resulting from the involvement of the tract, namely, the motor weakness, the spastic reflexes, the Babinski sign, and the loss of superficial reflexes, not as would be expected contralaterally, but homolaterally to the lesion. This occurs with especial frequency in lesions in the posterior fossa. The number of cases in this location, which regardless of their being situated above the crossing of the pyramids, show pyramidal tract phenomena homolaterally is, curiously enough, far greater than the number of cases which show these phenomena contralaterally to the lesion.

Thus Keschner and Grossman,[1] in a review of twenty-one cases of intracerebellar tumor with the pyramidal tract phenomena limited to one side, found these phenomena on the side of the lesion in sixteen patients and on the side opposite to the lesion in only five patients. Similarly, in eight cases of cerebellopontile angle tumor they found the pyramidal tract phenomena limited to the side of the lesion in six patients, and to the other side in only two patients.

Gould,[2] in a review of eighteen cases of intracerebellar tumor found the pyramidal tract phenomena on the side of the lesion in eleven patients and on the other side in seven patients. In nineteen cases of tumor in the lateral recess he found the relative frequency of the lesion with the pyramidal tract phenomena on the side of the lesion to be even more striking, sixteen patients having shown these phenomena on the same side and only three patients on the other side. The explanation proposed by this author for the anomalous finding is: first, that the tumors with posterior fossa bring about a dislocation of the medulla, and in doing this, exhibit "contracoup" pressure on the pyramidal tract of the other side by forcing it against the basal plate of the occipital bone; and second, that such tumors damage the pyramidal tract of the same side below the decussation by herniating the medulla into the foramen magnum and jamming the tract against the bony ring of this opening. Neither of the theories will, however, explain the occasional occurrence of pyramidal tract phenomena on the side of the lesion, in lesions above the tentorium. A lesion in this location, even if sufficiently large to produce great intracranial pressure, is hardly capable of producing such alterations in the brain stem as is presumably caused by tumors below the tentorium, the resistance by the firm unyielding tentorium being entirely too great. In one of the cases of supratentorial lesions with homolateral pyramidal tract phenomena reported in this communication, the brain stem has been studied with particular care for evidence of herniation into the foramen magnum or compression of the contralateral pyramidal against the occipital plate and none was found. It appears, therefore, that there must be another mechanism at play in the production of pyramidal tract phenomena on the side of a lesion; at least, when the lesion is above the tentorium.

Homolateral pyramidal tract phenomena in supratentorial lesions are relatively rare. Their occurrence constitutes, however, an important factor, to be taken into consideration when we are to determine the laterality of the lesion, as in not a few instances this has led to an erroneous localization and misdirected treatment.

A case is thus reported by Purves Stewart[3]:

> The patient was a woman, age twenty-eight, who developed progressive mental deterioration without paralysis of limbs or face. There was a vague history of an attack of unconsciousness with twitching of the right side of the mouth. There was incontinence of urine. Under observation the optic disks, which at first were normal, became swollen, especially in the right eye. Left facial paresis appeared; the left knee-jerk became exaggerated and there was left-sided ankle clonus. On the other hand, she had several attacks of tonic spasm of the right shoulder and arm, followed by clonic twitchings. Coma soon supervened, and we were left in a quandary whether to attack the lobe corresponding to the paretic limbs or that corresponding to the attacks of facial spasm.
>
> Dr. Victor Horsley decided upon the former course, and he decompressed over the right frontal lobe in its posterior part, *i. e.*, the side corresponding to the left hemiparesis. The patient died a few days later, and a profuse gliomatous tumor was found occupying the whole of the left frontal lobe, extending from the precentral gyrus right forward to the anterior pole.

Similar errors in localization of the lesion and its treatment, due to the occurrence of the pyramidal tract phenomena on the side of the lesion, are reported by Flatau, Tucker, and others. It is clear, therefore, that the laterality of an intracranial lesion cannot be considered definitely proven by the presence of the pyramidal tract phenomena contralaterally to it, and that other phenomena which might aid us in determining the problem should be carefully looked for.

REPORT OF CASES

Following is a report of two cases with supratentorial lesions and homolateral pyramidal tract phenomena which have come under my observation. It is to be noted that in the cases previously reported with this finding the lesion involved the frontal lobe, and that in my two cases, likewise, the lesion affected this lobe.

Case 1 (Los Angeles County General Hospital, No. 244258).—H. F., male, age twenty-three, married, was admitted to the hospital on March 10, 1926, complaining of severe headache from which he had suffered for a month. Patient was a professional prizefighter and engaged in a fight on the night of March 3, 1926, in which he was knocked out. The day preceding his admission to the hospital the patient had a generalized convulsion with unconsciousness which lasted about twenty minutes, and in which his whole body was rigid. Following this convulsion he had three others which were of a less violent character.

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* Read before the Neuropsychiatry Section of the California Medical Association at the fifty-ninth annual session at Del Monte, May 1, 1930.

Examination revealed a well-developed muscular man who was groaning a great deal from severe headache. He was quite intelligent, speaking and understanding perfectly. His pupils were moderately dilated and reacted to light and convergence. Ocular movements were normal. The fundi were clear on the temporal half and obscured on the nasal side, equally on both sides. The biceps and triceps reflexes were normal on the left side and markedly exaggerated on the right side. The knee-jerks were exaggerated on both sides. He had a Babinski on the right side and a loss of the abdominal reflex on that side; a normal plantar and abdominal reflex on the left side. Patient improved, following a spinal puncture, and was in fair condition when on the evening of March 17 he became drowsy.

It was assumed that the patient suffered from a chronic meningeal hemorrhage and had a subdural hematoma over the right frontal lobe, regardless of the fact that the pyramidal tract phenomena were on that side, because he presented no evidence of aphasia. Preparations were made to operate on him the following morning, when about two o'clock he suddenly went into convulsions and died.

Postmortem report by Dr. George D. Maner was as follows: Brain and meninges: "The dura over the right hemisphere is tense, and on removing it the whole of the right hemisphere is covered with a relative thick, dark red, unorganized blood clot which reaches a maximum thickness of about one centimeter. This clot is very adherent to the inner surface of the dura, although it can be scraped away without difficulty, and portions are fluid. The pia of the right hemisphere is blood-stained, but the convolutions appear normal, although the whole hemisphere is somewhat compressed. The hemorrhage is localized wholly above the tentorium cerebelli and laterally by the falx cerebri. Am unable to demonstrate any definite point of rupture in either the meningeal or pial vessels. The lateral ventricles are of normal size and shape, and contain a small amount of clear spinal fluid. Cerebellum of normal size and shape. There are no hemorrhages within the brain substance. No hemorrhages within the posterior fossa, either extradural or intradural."

* * *

Case 2 (Los Angeles County General Hospital, No. 33827).—S. W., female, age eighteen, was admitted to the hospital on October 1, 1928, complaining of severe headache and attacks of vomiting. She states that three weeks before her admission she had a febrile attack in which her temperature rose to 102 degrees Fahrenheit, associated with which she had abdominal pain and headache. This lasted about one week, when these symptoms passed off and she went to a near-by resort to recuperate. The headache returned a week later and continued ever since. She also has had several attacks of vomiting, but temperature remained about normal—98.2 to 98.6 degrees Fahrenheit.

Examination on October 5, 1928, showed the following:

Patient is very intelligent and coöperates in the examination, but tends to become drowsy; pupils are unequal, left is wider. Both react normally; ocular movements are normal. Ankle clonus and Babinski on the left side. Weakness of the face on the left side. She has considerable rigidity of neck, but no Kernig. Both disks are choked, showing an elevation of about two diopters. X-ray of head (repeated several times) showed no necrosis of bone. The spinal fluid was under increased tension, had an excess of globulin, and ninety-two lymphocytes. The diagnosis was an abscess of the frontal lobe, right side. Unfortunately we had considerable difficulty in securing consent to an operation. In the meantime the patient, on October 7, suddenly went into convulsions and died.

Findings at *necropsy* were as follows:

"A yellowish area is readily noted on the left frontal lobe. The entire brain is fixed in formalin, but there is an enlargement of the left frontal region with the yellowish coloration previously mentioned. This tissue is somewhat firm at the anterior tip, but becomes soft at a distance of four or five centimeters posteriorly, and here the brain is flabby on palpation. No meningitis. No evidence of moulding about the brain stem (which might be caused by intracranial pressure). The lesion in the left frontal lobe is not incised at this time, but is consistent with brain abscess. There is no rupture into either ventricle, although the left ventricle is somewhat crowded or displaced by bulging of its floor. Fourth ventricle is negative."

THE CAUSATION OF THE ANOMALY

Kernohan and Woltman [4] of the Mayo Clinic report a case of a tumor of the left frontotemporal area which was associated with convulsions, spasticity, and a positive Babinski on the side of the tumor, and in which a postmortem study revealed distinct notching of the crus on the opposite side, evidently from pressure of this structure against the free edge of the tentorium. They assumed such notching of the contralateral crus, with the resultant destruction of its pyramidal tract to have been responsible for the occurrence of the pyramidal tract phenomena on the side of the lesion. That this pathologic process is not the sole cause of the anomaly is admitted by the authors themselves, as they have found the notching in numerous instances of brain tumor with the pyramidal tract phenomena on the side opposite to the lesion. Nor can the notching be considered the cause of the homolaterality of the pyramidal tract phenomena in those patients in whom there is associated with the latter an absence of phenomena on the other side. These should be present there from the immediate involvement of the cortex or internal capsule at the site of the tumor or abscess.

It is clear, therefore, that while variations in the distribution of pressure in the cranial cavity and the resultant displacement of the brain may suffice to explain the not infrequent homolaterality of the pyramidal tract phenomena in expanding lesions of the posterior fossa, they do not explain the occurrence of the anomaly in lesions above the tentorium. I therefore believe that the cause of the anomaly in the latter type of lesions is to be found in anatomic and functional abnormalities of the structures involved. Philip Zenner [5] has thus found a complete absence of the decussation of the pyramids in a case of gliosarcoma of the left frontal lobe with the hemiplegia on the left side. This anatomic abnormality has been noted in many instances and has been described by Flechsig, Probst, Dejerine, and others. Congenital abnormalities have been noted also in the relative size of the direct pyramidal tract and a tract also direct and efferent and designated the ventrolateral tract, which was described by Stanley Barnes[6] and more recently studied by Inman.[7]

It is clear, of course, that in the absence of the pyramidal decussation the pyramidal tract phenomena from a brain lesion would be exhibited exclusively on the side of the lesion. On the other hand, if the abnormality be one in which there is a structural and functional predominance of the direct pyramidal tract, the phenomena would be present on both sides but would be more pronounced on the side of the lesion.

1930 Wilshire Boulevard.

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DISCUSSION

Thomas G. Inman, M. D. (2000 Van Ness Avenue, San Francisco).—Doctor Meyers opportunely calls attention to the misleading pyramidal tract signs which may arise from anomalies in the pyramidal decussation. Such anomalies do occur and have been observed in numerous instances, but unfortunately postmortem section has been necessary to demonstrate the cause of the error in diagnosis.

When we consider that the tracts may remain wholly uncrossed, or that there may be only a partial crossing, the value of other available aids to localization will be apparent. Here ventriculography may take first place as a means of determining the seat of the lesion.

But it would be incorrect to assume that all cases of anomalous crossing must lead to homolateral signs, for the fibers may cross lower in the cord, at, or near the segments which they were designed to serve. Only by the correlation of clinical signs with carefully stained serial sections can it be said with certainty that the homolateral tract functioned homolaterally.

Owing to the notorious unreliability of pyramidal tract signs as an aid to the localization of subtentorial tumors they should be disregarded in this connection. They are, however, of real value in confirming a suspicion that the underlying trouble is organic, no small aid in early cerebellar cases.

In cerebellar lesions, since both lobes will be exposed at operation, the chief value arising from a knowledge of which lobe is involved will be in the support which it gives to further investigation when inspection fails to disclose the nature of the trouble.

But in a surgical condition above the tentorium the first prerequisite to operation would be, at least, a knowledge of which side of the head to operate upon. Localization based upon pyramidal tract signs in an individual with abnormally distributed pyramidal fibers is just an unavoidable calamity only to be corrected by a prompt recognition of the probable cause of error.

In severe traumatism of the brain it sometimes happens that the pathological pyramidal tract signs emanating from the most severely injured hemisphere are temporarily withheld while those from the other side are present. In a comatose individual this condition is not easily recognized and decompression may be done on the side where it is least needed.

Those interested in this question are indebted to Doctor Meyers for his timely communication. A careful survey of the causes which lead to errors in diagnosis may be more fruitful of benefit than the recorded findings in many correct diagnoses.

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Samuel D. Ingham, M. D. (727 West Seventh Street, Los Angeles).—The cases reported in Doctor Meyers' paper are examples of the quite unusual occurrence of disturbances of the pyramidal tract on the side opposite from lesions of the brain associated with increased intracranial pressure, thus giving symptoms involving the extremities of the same side as the cerebral pathology primarily producing it. This anomalous condition must, of course, be explainable by the actual physical conditions present. There is nothing more consistent in clinical diagnosis than the manifestation of symptoms dependent upon lesions of the pyramidal tract. When the symptoms of motor weakness with increased tendon reflexes and diminished cutaneous reflexes involve the face, arm and leg of one, it may be assumed that there is some interference in the function of the pyramidal tract above the nuclear level of the seventh cranial nerve. Being above the decussation of the pyramids, the disturbance of the pyramidal tract must be opposite to the side of the body in which the symptoms are manifest. But when the primary pathology consists of a gross lesion it is on the opposite side from where the pyramidal tract is affected and it is sometimes difficult to explain the mechanism operating. The developmental anomaly of uncrossed pyramidal tract would explain the situation, but this condition is exceedingly rare. In the cases here described, as in others reported, the pathological conditions are located in the frontal region and of a nature to cause increased intracranial pressure. These conditions would seem to support the theory of a kind of "contracoup" pressure effect focused at some point along the pyramidal tract of the opposite side. Another possibility to be considered is the presence of multiple bilateral independent lesions, the one involving the pyramidal tract escaping detection. Cases of this kind illustrate the difficulty of diagnosis in all fields of clinical medicine in the presence of apparently contradictory symptoms.

ACUTE PROSTATITIS—ITS TREATMENT WITH HEAT APPLICATIONS*

By Burnett W. Wright, M. D.
Los Angeles

Discussion *by Edward W. Beach, M. D., Sacramento; Franklin Farman, M. D., Los Angeles.*

The beneficial effect of heat in the treatment of acute inflammations of the prostate, posterior urethra, and seminal vesicles, especially when occurring in the course of an attack of gonorrhea, is well known. The various methods employed for raising the temperature of these structures include measures such as hot sitz baths, heat to the perineum, hot enemata, hot rectal irrigations with return flow, and diathermy. These measures, with the exception of the last named, diathermy, if left to the patient to be carried

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* Read before the Urology Section of the California Medical Association at the fifty-ninth annual session at Del Monte, April 28 to May 1, 1930.

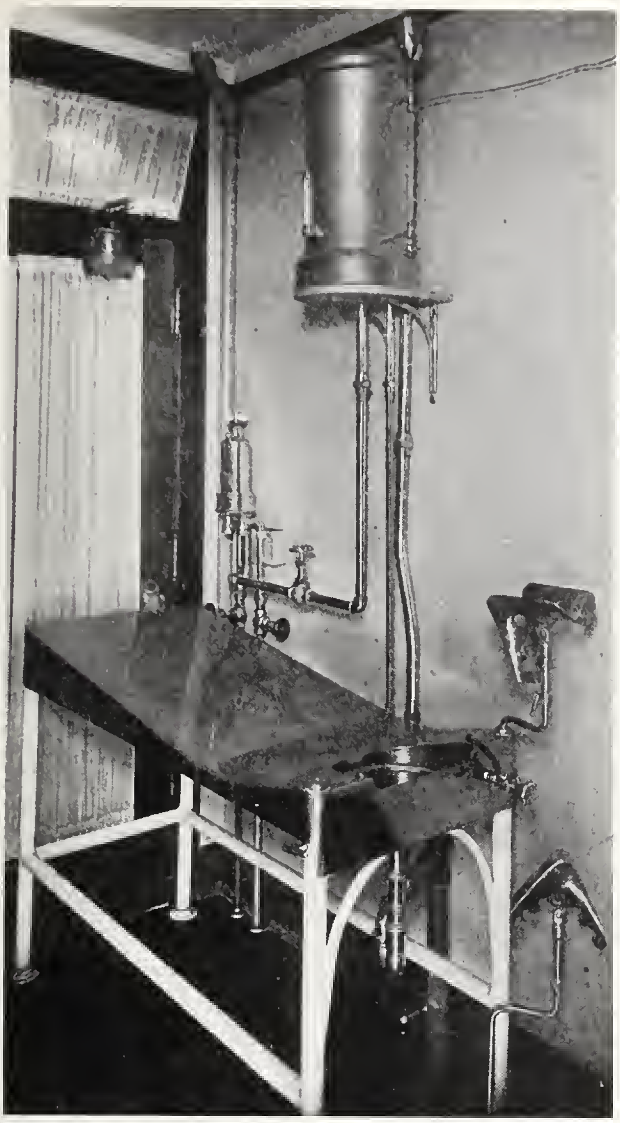

Fig. 1.—Constant temperature irrigating table (Wright)

out, are usually neglected, because of the trouble and inconvenience involved; and to be properly given, require the services of an attendant. In the use of diathermy, careful supervision is necessary to avoid doing more harm than good and the use of this modality to be effective, requires a better and more expensive type of coil than is found in the average office. Our experience with diathermy has been disappointing, and the failure to get the results described by Corbus, O'Connor and others, has caused us to abandon it.

AUTHOR'S METHOD OF HEAT APPLICATIONS

For the past eighteen months, we have treated our patients who were suffering from acute prostatitis and vesiculitis, and who were not frankly abscessed, by prolonged rectal irrigations, with solutions heated from 105 to 120 degrees Fahrenheit, depending on the tolerance of the patient to the heat, and on the degree of the inflammation present in the tissues. A special table, with provisions for controlling the temperature of the solutions employed, and for taking care of the return flow, was devised and manufactured by the R. L. Scherer Company. The method has proved so convenient, and the results of the treatment so satisfactory, that we consider it worthy of report.

Before installing this apparatus, it was exceedingly difficult for us to give a satisfactory rectal irrigation in the office. The ordinary Valentine irrigating jar, holding one gallon, required refilling repeatedly, the return flow had to be disposed of, and the temperature of the solution varied from too hot to too cold. The frequent raising and lowering of the jar disturbed the position of the rectal tube and added to the discomfort of the patient. In spite of these drawbacks, we believed, as did other urologists of our acquaintance, that the introduction of hot solutions in the rectum, the so-called Kemp irrigation, was the best means of raising the temperature of the prostate and contiguous structures, and was a valuable therapeutic measure. We are now able to give these treatments with a minimum amount of discomfort to our patients and little or no inconvenience to the office force, and as they are now given, a number of advantages have been noted.

DESCRIPTION OF THE TABLE

The apparatus consists of a substantial table 22 inches wide and 51 inches long, with a top of Monel metal, supported on a frame of neatly welded 1¼-inch iron pipe, with nonrust floor plates on the bottom of the legs. The rear three-fourths of the table top has an elevation of about five degrees. Immediately in front of this is a five-inch horizontal surface. The front section of the top is 10 inches long and inclines slightly upward. There is a large, built-in drain basin of Monel metal, and this is connected to a 1¼-inch waste. A comfortable pair of Bierhoff leg holders are extended down through the corners of the table top into the front iron pipe legs and are adjustable up and down therein without the use of lugs. A Leonard thermostatic mixing valve, model B-10, is connected to both the hot and cold water leads as furnished by the building. A pipe goes from the valve to a five-gallon metal tank placed 3 feet and 6 inches above the level of the table. A cut-off is between the Leonard valve and the tank. The tank has a removable top, a glass water gauge for measuring the level of the solution, a funnel for introducing medicaments into the solution, a thermometer installed in its base and readable from the outside, an overflow from near its top, connected to the waste, and a lead for conducting the solution to the table. This lead ends in a nozzle controlled by a cut-off, conveniently placed above the pan. One end of a short rubber tube is fitted to the nozzle, the other to the intake of the particular rectal tube to be used. The outflow of the tube, when in use, empties in the pan. The Leonard valve can be set to deliver water into the tank at from 80 to 130 degrees Fahrenheit. All plumbing, intercommunicating tubing, and valves are brass, nickel plated. The tank quickly fills to the overflow and the thermometer thereon registers. The intake valve is closed and the desired medication, if any, in correct concentration is poured into the funnel.

A pad is placed on the table, the patient assumes the lithotomy position, with the crutches under his knees, a suitable rectal tube is introduced and connected to the tubing, the outlet valve is opened and after determining that the apparatus is functioning properly and the patient is comfortable, we give him a magazine, invite him to smoke if he wishes, and leave him to the company of his own reflections. He rings a convenient bell when he observes the solution in the indicator getting low, or is in need of the attendant. The tank can be quickly refilled as often as desired without disturbing the patient and the process repeated as many times as required. Two tankfuls, or ten gallons, will last about an hour, when the flow is correct. There is a loss of not more than one degree Fahrenheit in thirty minutes with the irrigation started at 110 degrees, which is the customary temperature used. There is no perceptible loss of heat between the tank and the rectal tube.

Concentrated solutions of common salt, or potassium citrate, in the proportion of nine grams to the liter are the medicaments used. Occasionally ichthyol, one-half ounce to the gallon, is added. Often plain water alone is employed. The rectum tolerates moist heat surprisingly well.

OBSERVATIONS ON PATIENTS TREATED

We have seen no evidence of proctitis following these treatments, in spite of the fact that some patients have had as many as ten daily irrigations. One patient developed a small thrombotic hemorrhoid. No other ill effects have been noted. Care must be taken to avoid bruising the inflamed prostate when introducing the tube, which should be well lubricated. Two patients developed abscesses requiring drainage; in both of these there was a well developed acute parenchymatous prostatitis present before the treatment was begun. A small abscess in another, ruptured into the urethra following an irrigation.

In a number of instances we have felt that the treatment aborted threatened suppuration and abscess formation. The relief from pain, frequency and dysuria under this treatment has been noticeable. The patient feels a decided sense of well-being afterward, and many cases of prostatitis remain ambulatory that might otherwise be bedridden. In acute posterior urethritis and catarrhal prostatitis, the improvement has often been striking, the second glass quickly clearing, making possible an earlier return to local treatment. As an adjunct to massage and irrigation in old chronic cases of prostatitis which have resisted treatment, it is distinctly valuable. The prolonged moist heat around the prostate softens and tends to liquefy the pent-up, purulent secretion in the congested follicles, and the massage, which should be given immediately after the irrigation, frequently will express a surprising amount from a gland that has been hard to empty because of inspissated plugs of secretion and débris blocking the acinal ducts. We believe that the responsive activity in the circulation in and around the prostate, causing a resorption of inflammatory exudate, is especially marked after these prolonged irrigations at a constant temperature. Marked variations in the temperature will defeat this object, in our opinion, by contracting and dilating vessels that should remain dilated and congested. We think this explains the failures from diathermy, where the fluctuations in the amperage, common in the usual type of coil, not only makes sudden changes in the electrical heat generated between the two electrodes, but frequently, in our hands, has caused forcible contractions of the musculature of the perineum, bruising the already inflamed tissues.

We think this treatment is contraindicated in tuberculosis of the prostate and vesicles, because of the danger of dissemination of the infection.

The effect of this treatment on the sexual neurasthenic is decidedly salubrious. He knows something is being done to cure his prostate when so much shiny apparatus is used, and the tinkle of the overflow is music to his ears.

It has given an increased comfort and more rest at night to an old man with hypertrophy of the prostate, who was opposed to an operation.

As a means of giving prolonged, hot, medicated vaginal douches, it is unexcelled and has been of real value in the treatment of gonorrheal salpingitis, endocervicitis, and vaginitis.

Finally, the table is excellently adapted to cystoscopy with an unlimited amount of irrigating fluid, which should be sterile of course, conveniently located, for delivery to the cystoscope.

727 West Seventh Street.

DISCUSSION

Edward W. Beach, M. D. (Medico-Dental Building, Sacramento).—Contemplation of Doctor Wright's article recalls Lord Bacon's brilliant essay, "Innovations." Says he in part, "Surely every medicine (remedy) is an innovation and he that will not apply new remedies must expect new evils."

Strictly speaking, however, Doctor Wright's innovation lies in the vehicle and not the remedy. The author has transferred his hoary passenger, "Moist Heat," from a one-horse shay to an elaborate barouche.

The application of heat for relief of inflammatory conditions doubtless antedates the Hippocratic collection. The readiness with which heat in some form could be obtained and used, together with its continued employment down through the ages attests its exalted therapeutic position. The value of heat as an antiphlogistic agent challenges disputation.

Consider the action of heat as applied to the bladder neck and contiguous structures from the standpoint of physiology alone. I fail to discern any difference, whether it be moist heat derived from Doctor Wright's ingenious apparatus or from the prosaic enema can; whether it be so-called "dry" heat generated by a rheostat like Bransford-Lewis' device or whether it be heat produced by tissue resistance to the passage of a frequently interrupted electric current as in diathermy. Theoretically the tissue response is identical. However, in each instance we must presuppose favorable conditions and that the apparatus is correctly and efficiently used without production of trauma.

Clinically, Doctor Wright has employed all these methods and has rejected all in favor of the present appliance. Clinical results must reign supreme, silencing both theory and the test tube.

Doctor Wright's apparatus has much to recommend it. It is simpler in application than diathermy, but certainly less comprehensive in its sphere of influence. Contrariwise, diathermy may be fundamentally apt in action, but in technical administration more difficulty is encountered than beset the inimitable Doctor Syntax "In Search of a Wife." With Doctor Wright's invention a rectal irrigation can be given without slop or fuss. It can be given slowly, with little or no trauma, under proper supervision and at just the right temperature. With this equipment an accurate procedure in the office is substituted for a haphazard, half-hearted treatment in the patient's chambers.

On the other hand, one must balance the installation cost, the extra space, and the increased office congestion against accrued results over the older methods.

I have enjoyed the essay and I should like to study the author's innovation first-hand and see it function.

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Franklin Farman, M. D. (709 California Medical Building, Los Angeles).—Upon a visit to Doctor Wright's office, he personally explained and demonstrated to me the *modus operandi* of the new table devised by himself for the purpose of carrying out hot rectal irrigations in the treatment of prostatitis.

In my opinion, the Wright constant temperature irrigating table is an admirably adapted method of giving hot rectal irrigations in a simple, easily controlled, sufficiently prolonged manner to be effective. Very few patients will carry out at home rectal irrigations or any physiotherapy treatment consistently, yet they will submit readily to these measures in the urologist's office, especially when combined with prostatic massage and urethral medication.

Heat applications to an inflamed prostate act by relieving the engorged blood vessels and lymphatics, and by stimulating the reparative processes by inducing a more liberal supply of fresh blood and lymph to the entire organ. When followed by massage, the prostate is readily emptied of pus accumulations and cellular débris. No doubt more true abscesses of the prostate would be aborted if such treatment could be brought into action early.

Heat alone may reduce and cure an acute catarrhal prostatitis, but when dealing with the usual chronic type of postgonorrheal parenchymatous prostatitis, both heat and massage, and more heat and massage are necessary to bring about a restoration of normal prostatic secretion.

Doctor Wright certainly is to be commended for his effort to bring into modern usage such a valuable and age-old form of therapy, and this in the time of electrical invention.

⁂

Doctor Wright (Closing).—Since this paper was read, my attention has been called to the Cable irrigating table, designed and patented by Dr. E. E. Cable of Portland, Oregon, for the treatment of inflammatory diseases of the pelvis and in use in various detention homes and clinics for giving vaginal douches. Our table resembles the Cable table in the use of a reservoir, with hot and cold water connections, and in the manner of disposing of the waste. The principal difference is in the employment of the Leonard thermostatic valve, which makes it possible to deliver the solution for long periods at a constant, regulated temperature, which we think is essential for the best results.

THE EFFECTS OF COFFEE ON SLEEP*

By Leo L. Stanley, M. D.
and
Gordon L. Tescher
San Quentin

ENTIRELY independently, and without knowing of other work done on sleep disturbances, the medical department of the California State Prison devised apparatus and made some studies on the matter of the soundness of and movements during sleep.

It was hoped to secure data as to the normal changes of position which an individual made during his sleeping period and to find out what difference the drinking of a cup of coffee before retiring would show from the normal or average soundness and movements of sleep.

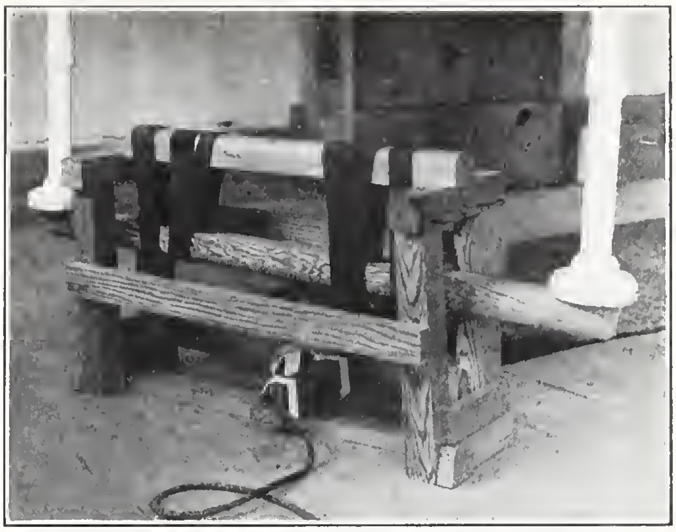


Fig. 1.—Showing how head of bed was placed on testing apparatus.

Apparatus.—The head of the bed was suspended on heavy rubber bands so that the least movement would shake the bed either up and down or sideways. Connected to the bed a compression bulb was arranged (Fig. 1).

To this was attached a rubber tube leading to another compression bulb at the kymograph.

To the latter bulb a pen was so fixed that it would write on a moving sheet of paper, propelled by an electric motor.

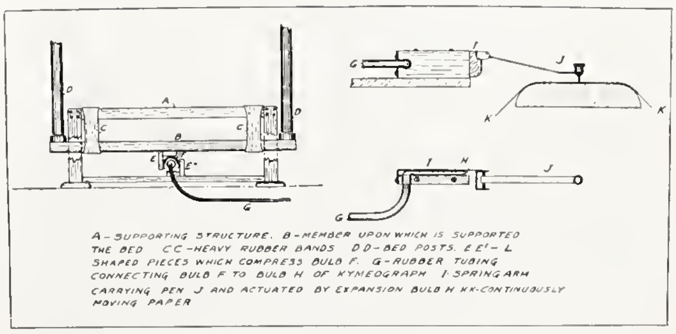
Any movement of the bed was transmitted by air pressure to the recording apparatus (Fig. 3).

SUBJECTS CHOSEN FOR THIS STUDY

Subjects.—Seven men were selected for the tests, as follows:

	Age	Wgt.	Occupation in prison	Crime	Time Served
No. 1	19	125	Lab. technician	Murder	2½ years
No. 2	38	215	Druggist	Robbery	4 years
No. 3	47	126	Doorkeeper	Kidnapping	10 years
No. 4	28	180	Male nurse	Robbery	5 years
No. 5	42	172	Surgical nurse	Murder	4 years
No. 6	22	135	Lab. technician	Robbery	2½ years
No. 7	29	140	Chief technician	Murder	11 years

All had been in prison over two years and they were in good health. These men were excellent subjects in that their daily routine varied only slightly from day to day. They had had no alcohol or other stimulants, and had retired every


D
A
D
C
C
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E'
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J
K
K
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G
A–SUPPORTING STRUCTURE. B–MEMBER UPON WHICH IS SUPPORTED THE BED CC–HEAVY RUBBER BANDS DD–BED POSTS. EE'–L SHAPED PIECES WHICH COMPRESS BULB F. G–RUBBER TUBING CONNECTING BULB F TO BULB H OF KYMEOGRAPH I-SPRING ARM CARRYING PEN J AND ACTUATED BY EXPANSION BULB H KK-CONTINUOUSLY MOVING PAPER

Fig. 2.—Diagrams of apparatus.

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* From the Medical Department, California State Prison, San Quentin.

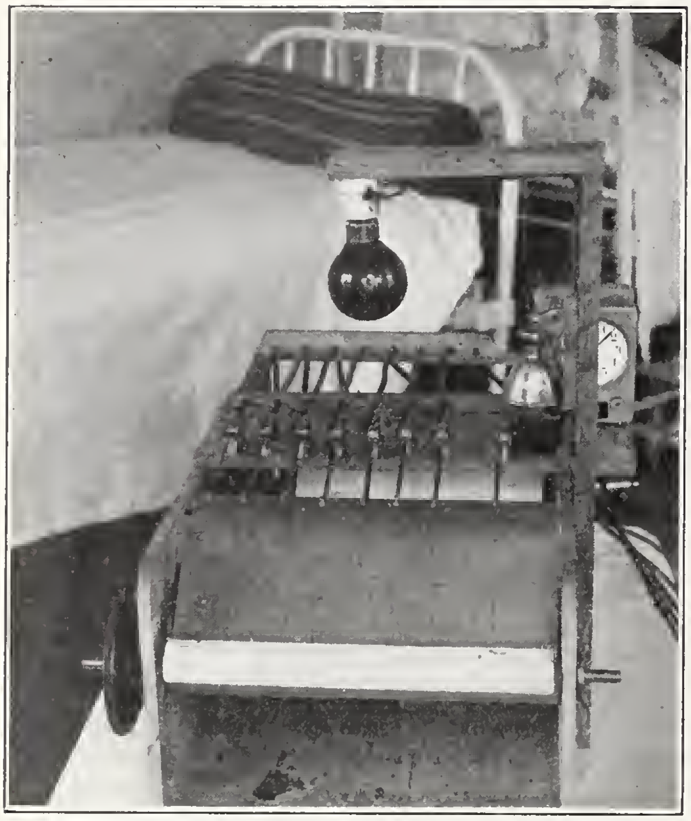

Fig. 3.—Another view of the testing apparatus.

night at approximately the same time during their incarceration. They were intelligent and coöperative.

METHOD USED IN TESTS

Procedure.—For eighteen days, August 15 to September 1, 1930, a normal was established. For nine days, September 2 to September 10, each man was given a cup of hot water (225 cubic centimeters) on retiring. For ten days, September 11 to September 21, each man was given a cup of coffee (225 cubic centimeters) instead of the hot water.

This coffee was of a standard brand and was made by tricolating four tablespoonfuls with boiling water for seven cups.

The movements during the sleeping period were recorded on the kymograph. These figures are shown by Table 1.

TABLE 1.—AVERAGE NUMBER OF MOVEMENTS PER HOUR

A. Movements When Nothing Was Given Before Retiring

Date	Subj. 1	Subj. 2	Subj. 3	Subj. 4	Subj. 5	Subj. 6	Subj. 7	Average
Aug. 15	9.1	15.6	6.66	8.44	14.9	21.6	12.1	12.62
Aug. 16	....	....	....	....	....	....	....	....
Aug. 17	11.7	24.4	6.88	13.5	16.3	19.3	12.1	14.88
Aug. 18	7.7	13.6	7.00	9.33	8.77	14.9	14.4	10.81
Aug. 19	....	....	....	....	....	....	....	....
Aug. 20	13.1	8.94	7.1	10.81	15.7	23.1	15.6	13.33
Aug. 21	12.5	7.4	5.7	12.7	12.1	13.1	13.9	11.05
Aug. 22	12.7	13.8	7.71	13.0	16.9	14.7	15.4	13.46
Aug. 23	17.3	9.2	4.7	12.7	16.46	22.6	20.1	14.72
Aug. 24	16.4	16.6	5.8	9.8	14.8	7.8	......	10.17
Aug. 25	17.69	11.4	5.42	7.31	16.6	5.8	8.3	10.36
Aug. 26	12.0	17.0	3.58	15.28	14.9	6.9	12.33	11.71
Aug. 27	10.4	9.00	3.2	8.5	12.8	6.4	9.1	8.48
Aug. 28	6.66	12.9	2.58	14.2	11.2	3.7	8.0	8.46
Aug. 29	11.6	10.2	5.1	6.4	12.3	7.8	3.7	8.15
Aug. 30	11.4	9.6	6.66	5.8	13.09	11.09	6.72	9.19
Aug. 31	14.7	5.5	6.2	8.4	10.03	6.7	11.7	9.07
Sep. 1	9.73	6.10	7.1	7.33	11.6	10.0	12.4	9.80
Period average	12.76	11.95	5.71	10.21	13.67	12.21	10.99	10.98

B. Movements When Hot Water Was Given Before Retiring

Date	Subj. 1	Subj. 2	Subj. 3	Subj. 4	Subj. 5	Subj. 6	Subj. 7	Average
Sept. 2	8.37	8.00	5.8	6.0	11.6	6.6	9.2	7.93
Sept. 3	11.0	8.00	4.66	5.1	9.76	6.25	8.8	7.65
Sept. 4	11.63	6.94	3.85	7.25	9.17	5.7	10.7	7.89
Sept. 5	8.9	7.20	4.4	3.8	6.1	6.4	8.8	6.51
Sept. 6	8.6	6.3	....	5.6	8.2	7.6	8.6	7.48
Sept. 7	17.5	8.8	6.0	5.8	6.4	6.5	12.8	9.11
Sept. 8	30.9	6.82	6.0	6.6	8.2	5.65	9.0	10.45
Sept. 9	18.66	9.66	8.0	9.55	10.0	7.77	11.2	9.25
Sept. 10	13.2	12.0	....	7.8	8.9	8.6	12.9	10.56
Period average	14.30	8.19	5.53	6.39	7.54	6.28	10.22	8.35

C. Movements When 225 Cubic Centimeters of Coffee Was Given Before Retiring

Date	Subj. 1	Subj. 2	Subj. 3	Subj. 4	Subj. 5	Subj. 6	Subj. 7	Average
Sept. 11	19.5	9.0	10.9	8.33	9.4	5.8	10.0	10.40
Sept. 12	12.1	7.64	7.4	6.37	8.0	8.0	11.1	8.69
Sept. 13	12.20	6.10	6.75	9.37	11.60	8.80	12.30	9.59
Sept. 14	20.20	10.40	5.28	7.26	12.50	8.10	12.0	10.82
Sept. 15	8.2	6.9	6.4	6.00	10.3	10.2	9.4	8.20
Sept. 16	7.0	12.8	5.3	......	9.0	8.8	10.9	8.90
Sept. 17	9.25	9.6	5.14	10.97	10.75	4.3	11.86	8.84
Sept. 18	....	....	....	....	....	....	....	....
Sept. 19	4.6	10.3	6.1	5.8	13.6	6.6	11.3	8.30
Sept. 20	7.3	8.5	6.2	6.5	9.2	7.3	11.5	8.00
Sept. 21	5.0	8.0	7.1	7.2	8.0	5.7	6.7	6.80
Period average	10.5	8.92	6.58	6.78	10.23	7.28	10.7	8.85

In order to check up on these findings, a second series was run. This included a normal period, September 22 to October 2, 1930; a hot water period, October 3 to October 12; and a coffee period, October 13 to October 22.

The figures obtained are shown in Table 2.

TABLE 2.—AVERAGE NUMBER OF MOVEMENTS PER HOUR (CHECK SERIES)

A. Movements When Nothing Was Given Before Retiring

Date	Subj. 1	Subj. 2	Subj. 3	Subj. 4	Subj. 5	Subj. 6	Subj. 7	Average
Sept. 22	10.8	9.1	6.0	7.5	10.5	5.5	10.1	8.5
Sept. 23	13.0	8.3	6.8	7.5	10.6	9.0	12.6	9.7
Sept. 24	10.3	5.1	8.0	6.7	10.6	9.3	12.6	9.0
Sept. 25	10.7	5.7	6.6	9.4	17.4	6.6	15.2	10.2
Sept. 26	8.1	6.6	7.8	11.5	15.6	7.6	10.8	9.7
Sept. 27	9.0	15.1	6.0	9.1	14.8	10.8	11.3	10.9
Sept. 28	8.8	13.6	6.6	8.3	14.1	7.3	10.9	9.9
Sept. 29	7.4	10.0	4.9	9.0	15.6	7.4	11.1	9.3
Sept. 30	9.0	17.1	7.7	6.6	16.5	7.2	14.0	11.2
Oct. 1	....	......	....	....	......	....	......	......
Oct. 2	16.2	5.5	6.8	9.7	13.0	9.0	11.0	10.2
Period average	10.33	9.0	6.72	8.53	13.87	7.97	11.95	9.86

B. Movements When Hot Water Was Given Before Retiring

Date	Subj. 1	Subj. 2	Subj. 3	Subj. 4	Subj. 5	Subj. 6	Subj. 7	Average
Oct. 3	14.1	5.2	4.1	....	13.0	6.4	9.7	8.75
Oct. 4	14.4	10.1	2.2	6.1	16.7	9.5	14.3	10.5
Oct. 5	15.3	13.4	1.6	4.0	16.0	8.0	10.7	9.85
Oct. 6	12.1	5.2	5.7	4.4	13.7	5.8	7.8	7.81
Oct. 7	9.7	6.5	5.0	6.1	10.6	8.7	8.6	7.9
Oct. 8	7.0	5.9	4.6	4.3	8.5	....	10.2	6.75
Oct. 9	10.1	4.1	5.0	5.8	11.1	7.1	10.1	7.46
Oct. 10	10.9	3.8	3.4	4.3	9.7	14.0	9.4	7.93
Oct. 11	10.0	5.3	5.0	5.2	18.3	8.0	11.6	9.00
Oct. 12	9.3	5.5	4.8	3.2	11.0	5.8	10.8	7.2
Period average	11.29	6.5	4.14	4.84	12.86	8.14	10.32	8.51

C. Movements When 225 Cubic Centimeters of Coffee Was Given Before Retiring

Date	Subj. 1	Subj. 2	Subj. 3	Subj. 4	Subj. 5	Subj. 6	Subj. 7	Average
Oct. 13	8.7	3.8	3.2	4.6	....	6.9	9.4	6.13
Oct. 14	....	8.5	4.6	4.7	7.2	5.6	....	6.12
Oct. 15	7.0	8.9	5.5	9.2	13.2	8.7	....	8.75
Oct. 16	5.0	10.1	4.2	5.0	13.0	....	9.4	7.71
Oct. 17	7.2	11.1	5.4	6.5	10.2	....	9.1	8.25
Oct. 18	6.6	5.2	2.2	4.7	11.5	....	13.0	7.12
Oct. 19	9.2	9.4	4.9	3.4	14.0	8.6	8.5	8.3
Oct. 20	6.8	5.2	4.7	3.0	14.3	5.4	8.1	6.8
Oct. 21	3.1	8.7	4.4	....	14.4	4.5	8.7	7.3
Oct. 22	5.7	5.5	5.0	....	9.2	4.7	8.5	6.4
Period average	6.6	7.64	4.41	4.11	13.0	6.2	9.3	7.29

The average of all hourly movements of all seven men is shown below:

	First Series	Second Series	Average of Both
Normal	10.98	9.86	10.42
Hot water	8.35	8.51	8.43
Coffee	8.85	7.29	8.07

COMMENT

From these figures it is seen that in two series the average of movements per hour of seven men normally was 10.42. With hot water on retiring, it was 8.43. With cup of coffee on retiring, it was 8.07.

CHRONIC MENINGOCOCCEMIA*

REPORT OF CASES

By **Fred B. Clarke, M. D.**
Long Beach

THE medical profession ordinarily thinks of meningococcus infections as meaning meningitis and naturally this phase of the disease, because of its gravity, has received the greatest amount of attention. The outstanding characteristics of this meningeal involvement are now universally recognized. The fact that at times meningococcus infection may result in chronic bacteremia with rather characteristic symptoms is not so well known, nor is it a matter of common knowledge that meningococcemia may cause lesions in any endothelial-lined structure of the body.

Netter[1] has called attention to the frequency with which chronic meningococcemia occurs. The reports in foreign literature suggest that either chronic bacteremia occurs more frequently in Europe or that the attention of their medical men has been directed to the fact that, meningococcus infection does not always mean meningitis, and that it may result in a general bacteremia, with or without involvement of any endothelial lined cavity, such as the synovial membrane, the endocardium, etc. In this country Warfield and Walker,[2] Morgan,[3] Cecil and Soper,[4] Krumbhaar and Cloud,[5] and others have reported several instances in which meningococcemia has produced ulcerative endocarditis without there being any evidence of meningeal infection.

Herrick,[6] who had ample opportunity to observe meningeal infections during the war, has shown that bacteremia precedes meningeal symptoms in the majority of cases. Other observers have corroborated these findings so it is not surprising to find an occasional case which never develops meningitis, and if developed, it does not occur until after the bacteremia has been present for a number of months.

The first proven case described of the meningococcus occurring in the blood stream was reported by Gwynn[7] in 1898. Two years elapsed before Salomon[8] reported a case of chronic meningococcemia. Since that time a number of cases have been reported in European literature. In this country relatively few cases have been reported. According to Dock,[9] only nine cases were reported up to 1911. Graves and Michelson[10] state that up to 1928 there were but fifteen proven cases of a chronic type of meningococcus bacteremia reported. Dock reports a number of cases which hardly fit in with the type of chronic meningococcemia here described because he included those cases "in which there was a febrile period of at least one week without meningeal symptoms and whose clinical course changed abruptly after meningitis supervened."

While it has been common knowledge that the fulminating type of case has resulted from an overwhelming blood infection, it has not been so well understood that the typical case of cerebrospinal meningitis is usually preceded by a bacteremia. Herrick and others in this country have shown that it is possible to secure positive blood cultures in about half these cases. Probably a larger percentage exists but the laboratory difficulties, together with the marked reduction of the organisms in the blood stream when the meninges become involved, make it exceedingly difficult to obtain positive cultures.

Warfield and Walker, Cecil and Soper, Rhoads,[11] Westenhoeffer,[12] Weichselbaum, and Ghon,[13] furnish evidence that endothelial lesions frequently occur. When the general practioner becomes conversant with this fact many cases of long and unexplained fever may be correctly diagnosed.

The earlier conceptions of meningococcus infection have geen decidedly modified in the last few years. We now feel that an acute meningococcus bacteremia precedes the usual type of cerebrospinal meningitis, the blood infection preceding the meningeal symptoms by a relatively short time. Positive blood cultures may be obtained early, depending upon the laboratory methods used.

Medical men are less familiar with acute fulminative meningococcus bacteremia which has been so well described by Herrick and others. This type represents an overwhelming infection with rapid onset, chills, marked prostration, a temperature which may be high or at times subnormal, pupuric eruption and the entire course lasting, as a rule, not over forty-eight hours and ending in death. At autopsy these cases may show no involvement of the meninges whatever, and the diagnosis is made from cultures.

Chronic meningococcemia represents rather a distinct clinical type of this infection. The onset is abrupt, there are chills followed by fever and at times there are vague joint pains and a rash. From the diagnostic standpoint the temperature curve is characteristic and important. It is frequently intermittent and is identical with the curve of the tertian or quartian type of malarial infection. Netter states that many patients have received treatment for a malarial infection because of the characteristic temperature curve.

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* Read before the Southern California Medical Association at Long Beach, November 1, 1930.

One rather characteristic and interesting factor of this condition is the length of time the temperature may persist, several patients having been ill for a period of three or four months and one patient was reported as having had a temperature for seven months before meningeal symptoms occurred. Nearly all patients eventually develop meningitis if not diagnosed early and antimeningococcic serum administered.

Treatment by administration of polyvalent antimeningococcic serum is quite naturally most successful when given as early as possible. The amount of serum required varies decidedly in individual cases so far reported. The amount varies from 90 cubic centimeters; in one case reported 1000 cubic centimeters were given. After meningitis develops it would seem that the serum is not so efficient as one would expect, probably due to the general and prolonged bacteremia.

The two cases I am reporting seem, aside from their clinical interest, unique as they occurred in mother and son. Insofar as I am able to learn from literature, this disease has not been previously reported as occurring in two members of the same family.

SYMPTOMS

Usually the temperature is preceded by chills occurring on the second, third and fourth days, with quite definite regularity, without much prostration of the patient between the chills. In the second patient the chills were attributed to malaria, as he had had a definite malarial infection twenty years before, and lived in a section of the country where malaria is not unknown. When the intermittent type of temperature is accompanied by a leucocytosis, one questions the possibility of malarial infection. As the case progresses the temperature curve usually loses its intermittent character and becomes more constant, accompanied by chills and rather profuse sweats.

The joints are usually involved, the ankle joints and the knees more often than those of the upper extremities. Upon movement they are painful, at times swollen, but there is seldom any feeling of increased heat and as a rule they do not contain purulent material. The ankle joints of the second patient were much more painful than the knees; at times they were slightly swollen, never red and unless moved were not acutely painful. The sensation was described as a severe ache.

Skin eruptions are present in the majority of cases and are described as petechial, macular or nodular. The color varies from bluish to bright red. Some are painful, others not. They have been described in one case as dull red, nodular areas with white centers. It seems that the time and extent of the skin lesions are decidedly variable, occurring in some cases at the onset of the fever and continuing several weeks, in others occurring several weeks after the onset of the fever. In Case 2 the eruption was not noticed by the patient until after the third week of his illness, recurring at frequent intervals. They were from 1.0 to 1.5 cubic centimeters in diameter, distinctly nodular, hard and slightly tender to the touch, a dull red in color, fading gradually to a bluish discoloration which persisted for a week or more, and appearing in succeeding crops following the chills.

REPORT OF CASES

Case 1.—R. M., female, age sixty-two, was admitted to St. Mary's Hospital September 1, 1926, having had a temperature for about twenty-four days.

Present Illness.—Pronounced and far advanced cardiorenal disease which had resulted in a cerebral thrombosis with complete right-sided hemiplegia and rather marked mental deterioration. Her condition required the constant attention of nurses because of mental confusion and incontinence.

About three weeks before her admission to the hospital it was noticed that she had a temperature which varied from 99.6 to 100 F. daily. During this time her pulse averaged from 70 to 104, with normal respiration. One week before admission to the hospital it was noticed that there was quite an increase in temperature, she was becoming exhausted, and the mental confusion seemed more pronounced.

The first two weeks she was in the hospital her temperature averaged from 100 to 101½ F. each day; highest usually in the evening. Agglutination tests for typhoid were negative; examination of the blood for malaria was negative. The leukocyte count averaged from 10,000 to 12,000, polymorphonuclear leukocytes from 65 to 76 per cent. The urine showed a moderate amount of albumin. The N. P. N. was at times as high as 100 milligrams. The creatinin varied from 4.5 to 6 milligrams. Blood cultures on September 14 and 17, 1926 were negative, but a culture taken on the 20th showed Gram-negative diplococci, agglutinating with antimeningococcic serum. It was deemed advisable to do a lumbar puncture. The spinal fluid was negative as regards cell count, globulin, etc. Within the next forty-eight hours 90 cubic centimeters of polyvalent antimeningococcic serum were administered intravenously. Her temperature subsided very promptly and she was discharged from the hospital on October 26, 1926. She lived until the following January, when she died of renal insufficiency without having a recurrence of her infection.

* * *

Case 2.—S. M., male, age forty-three, was admitted to St. Mary's Hospital on May 23, 1929.

History of Present Illness.—Ten weeks prior to his illness he developed chills and fever of 103 F. which lasted about eight hours, following which he had no trouble for two days; then on the third day he had another chill and fever. This has occurred with definite regularity for about ten weeks. It was only after going to the hospital that he had a chill every day accompanied by a temperature of 99 F. in the mornings to 103 F. in the afternoon.

During the first four or five weeks of his illness he was well enough to supervise the work of forty or fifty employees for two succeeding days, but he always stayed home on the third day because he knew he would have a chill and feel very bad.

A few weeks after the onset of his trouble he noticed curious spots like flea-bites over his arms, hands, chest, and a few over his abdomen and the tibial surfaces of his legs. These lasted two or three days and then disappeared. About a week after the onset of his trouble he had aching in his joints, particularly those between the small bones of his hands, wrists, and ankles. The joints were never swollen or inflamed.

Three weeks after the onset of his trouble he consulted a local physician who thought he had malaria, inasmuch as there had been a history of malaria twenty years before. Quinin was administered in large doses without results. Following this he consulted another physician who undoubtedly felt that he had some generalized infection, as he had a blood culture made with negative results. Following this he was advised to have six or seven infected teeth removed, which he did, without any improvement.

Because of the aching in the joints the patient thought that he had a rheumatic infection and on his own initiative he went to a hot springs, where he took a series of baths. These did not prove of any benefit to him. Shortly after this he was admitted to the hospital.

Past History.—Patient had had measles, chickenpox, whooping-cough; typhoid fever at the age of twenty, pneumonia one year later. Twenty years ago he had malaria, which lasted a few months. Tonsillectomy had been performed in childhood, but it is quite evident that the tonsils had only been clipped off. Double herniotomy had been performed eight years ago. In addition, he had a great deal of catarrh, as he expresses it, with a large amount of postnasal dripping.

Examination.—His appearance was that of a man in fair nutrition. He was quite weak, but not so weak as one would expect in an individual who had had a recurring temperature and chills for a period of ten weeks. Skin showed a decided eruption, which will be described later. The pupils were equal, regular, and reacted to light and accommodation. Fundi normal. The nose showed definite deflection of the septum to the right. Turbinates were enlarged. The left maxillary did not transilluminate clearly. The tonsils were very red and ragged. The anterior pillars were exceedingly red. Those teeth he had remaining were in fair repair. There was no enlargements of the thyroid, or other glandular enlargement.

Expansion was equal and regular on both sides. No change in the percussion notes and no unusual sounds were heard over the lung parenchyma.

The heart was slightly larger than normal. Blood pressure was 120.80. No murmurs.

There was no enlargement of the liver or spleen, and no areas of tenderness over the gall bladder or appendix. The rectum and prostate were normal. Reflexes were all present and equal. He had a maculopapular eruption, thirty or forty in number. These apparently came on in crops every few days, and usually after a severe chill. About one-half of them were distributed over his chest and abdomen, the others on the flexor surface of his arms and over the anterior surface of his legs below the knees. They varied in size from 1.0 to 1.5 centimeters in diameter, were decidedly raised, hard and somewhat painful. To the examining finger they were quite indurated and did not disappear upon pressure. The center of the eruption was not so red as the edge. They did not itch, nor was there any evidence of hemorrhage.

Blood Cultures.—After he was admitted to the hospital four blood cultures were made, all of which were negative. The blood was checked for Malta fever and typhoid with negative results.

The heart condition was of very great interest. At the time of his admission to the hospital no murmurs were detected although they were looked for. On June 1, one week later, a very low-toned systolic murmur was heard, loudest over the mitral area, and it was not transmitted. Within a few days this murmur became much more definite and a diagnosis of malignant endocarditis was made.

He insisted on leaving the hospital and five additional cultures were made. The eighth culture showed numerous small colonies of Gram-negative diplococci. Number 9 showed the same cultures as on the one on June 20, 1929. Subculture grown on blood serum showed agglutination with antimeningococci serum.

Diagnosis.—Meningococcemia.

Nose and throat cultures were made several times, and the fifth culture on June 20 showed the same type of organism that was found in the blood stream.

Treatment.—One hundred and eighty cubic centimeters of polyvalent antimeningococcic serum were given intramuscularly over a period of five days. Temperature remained normal after the fourth injection. An effort was made to give this serum intravenously, but with such a severe reaction, even after the ordinary procedure for desensitization was carried out that it was deemed advisable to give it intramuscularly. The length of his illness was fifteen weeks.

Subsequent History.—Following recovery he was not so well as before. He tired easily and had a great deal of aching in his feet, particularly around his heels.

Nasal cultures were made several times after his infection, with negative results.

Five months after his illness, he still had some nasal discharge, the culture from which was negative. One month later, nasal cultures were made on three different occasions on three different media, and they did not show any meningococci. At this time the heart was not enlarged and there was no evidence of a murmur.

March 3, 1930: Patient is apparently not so well as he was before his illness. He tires easily and his feet and ankles are quite tender and sore.

COMMENT

How the mother acquired the infection one may only speculate, certainly the few contacts, all of whom were well, limited the field. One might conclude that she was a carrier and thereby infected herself or acquired this infection from her son who was a chronic carrier. The second patient, the only one who had a nasal discharge, had a positive nasal culture two years and eight months later. It is reasonable to suppose that he was a chronic carrier of the organism and because of lowered resistance or increased virulence of the organism he developed a general septicemia. There are families who have a low resistance to certain organisms and this may serve as an explanation for the occurrence of two cases in this family of mother and son.

Whether or not there is an undifferentiated strain of the meningococcus which is more apt to produce septicemia and involvement of the endothelial structures has not as yet been determined.

The general condition of this second patient all through his illness was surprisingly good, much better than one would expect after chills and high fever had persisted for approximately four months.

The heart murmur was very interesting, developing as it did while he was in the hospital. This murmur was so decided that in conjunction with the chills and fever, joint pains and skin eruption, a diagnosis of malignant endocarditis was made. Within a short time, following the subsidence of temperature, the murmur disappeared. Whether or not the mitral endocardium was involved by the meningococci or the murmur developed as a result of weakness of the myocardium from the continued toxemia, is a question of interest but one which cannot be decided.

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CEREBELLAR ATAXIAS

REPORT OF SIX CASES

By J. M. Nielsen, M. D.
and
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The writers have encountered in the last few years six instructive cases of cerebellar ataxia which illustrate well how the various types of these cases merge and how extremely difficult the diagnosis may be in certain forms.

There is a basic symptomatology common to all cases whether hereditary or not, and whether beginning early in life or late. The various types of symptomatology known by the names of their discoverers are to the basic symptomatology as mountain peaks are to the earth—the same material is present, the difference being in the prominence of certain features.

REPORT OF CASES

Case 1. (Illustrating the general, basic symptoms, not belonging in any particular type.) D. C., a man of thirty years, unmarried, was brought to us unable to walk because of inability to maintain his balance. There were no similar cases in his forebears. There was only one sibling, a married sister of thirty-two who was well and who had young children still healthy.

The history was obtained to the effect that the patient had unusual difficulty in learning to use his lower extremities when he first learned to walk at fifteen months. He had never walked well. At the age of six or seven years, speech difficulty became manifest in the form of jerky utterances, making pronunciation poor. At the age of ten or twelve he left school in the fourth grade because it was too great an effort for his parents to get him from his home to the schoolhouse. There was said to have been no progress of the disease for many years.

A neurological examination gave the following positive findings: Marked mental retardation, marked concentric contraction of the visual fields, bilateral paralysis of convergence with an irregular nystagmus. There was also limitation of movement of the eyes separately in every direction. In looking up, first one eye, then the other, overshot. At the fixation point a tremor was present. Both labyrinths were probably normal, but a central disturbance caused irregular responses which were elicited by very slight stimuli. The vocal cords were ataxic, causing sudden, unexpected changes in pitch. The speech was ataxic and slurring, at times indistinct, at times unintelligible. The head was held to the left.

There were involuntary, irregular movements of the pectoral muscles on the left. Respirations were irregular and jerky from ataxic movements of the chest and diaphragm. Adiadokokinesis was marked. The entire trunk was in a constant state of titubation whenever the patient attempted to sit or stand. Any tendency to fall was invariably overcorrected (hypermetria).

There were ataxic movements of the upper extremities, especially the left, but there was no rigidity. The vasti, lateralis of both thighs were rigid. Patellar reflexes were greatly increased, more on the left. Babinski and Chaddock signs were present bilaterally and also a Gordon reflex on the right. In attempting to walk, the patient went into a reeling, tottering, stumbling gait, which ended after not more than ten feet in a fall. His nasal bones had been broken several times in such falls. The spinal fluid was entirely negative.

There were no sensory disturbances, but quite a marked arteriosclerosis with elongation of the aorta as shown by fluoroscopic examination.

This patient showed the basic characteristics found in all types of cerebellar ataxia: First, a slow ataxia, manifested in cranial nerves, trunk, and extremities, giving rise to nystagmus, staccato speech, chorea-like movements of limbs and titubation, and second, signs of involvement of the pyramidal tract. He does not belong to any one type.

The pathology in these cases consists in a primary neuronic degeneration with secondary glial formations in the posterior columns of the cord; both direct and indirect cerebellar tracts and, of course, in Clark's column; the cerebellum and its direct connections; the ascending frontal convolution; and in the neurons of the retina.

The degeneration is first peripheral and a slow "dying back" toward the center occurs.

* * *

Case 2. (Friedreich's ataxia.) C. S. A boy of seventeen years whose brother developed a similar condition at the age of thirteen and was helpless at the age of eighteen.

The patient had had measles at the age of two, influenza at ten, pertussis and chicken-pox at twelve, and typhoid at fifteen.

The trouble complained of had begun at the age of thirteen with awkwardness in getting about. (Usually the disturbance is not noticed until it has attained some degree of severity.) His strength and endurance remained good; he was still able to walk ten miles. His sleep was restless and somnambulism had occurred.

A neurological examination showed a dulled mentality with low intelligence. The right pupil was slightly larger than the left. A nystagmus was present on looking upward. Articulation was jerky and indistinct. There was a marked dorsal scoliosis. The deep reflexes in the arms were much diminished. The knee-jerks and tendo Achilles reflexes were absent. Bilateral pes cavus with hammer toes was present. The gait was reeling, staggering, and difficult.

This conforms to the Friedreich's type, which is characterized by an insidious onset in childhood, familial occurrence, ataxia first to appear, by nystagmus, speech disturbance, contracture of feet, absence of deep reflexes, spinal curvature, staggering ataxic gait and no disturbance of sensation. It differs from the preceding, especially in the absence of deep reflexes.

The pathology in this group is found mainly in the posterior columns of the cord; the crossed pyramidal tracts; and in both direct and indirect cerebellar tracts and Clark's column.

The posterior columns degenerate before the lateral, which fact accounts for the loss of deep reflexes.

* * *

Case 3. (The type of Marie.) G. D. R. A man of twenty-nine years came because of a "hopping gait." There was no similar trouble in the family. One brother had died of pneumonia, one of kidney trouble, but three were living and well at thirty-two, thirty-five, and thirty-eight years, respectively, One sister was well at forty-two years. The patient was the youngest of the family.

The personal history was to the effect that the patient had been well until twenty-four years of age, when he was thrown out of a vehicle, and soon afterward noticed his tendency to "hop." (The hopping, however, was due to contracture of the gastrocnemius and soleus muscles which made it almost impossible for the patient to touch his heels to the floor. This could not have developed in a few days.)

The neurological examination revealed concentric contraction of color fields; weakness in both external recti of the eyes, more on the right; fine nystagmus on fixation to left, not constant; twitching of the eyelids and some twitching of the facial muscles, especially on movement, and more so on the left. The speech was irregular, explosive, jerky. Linguals and labials were not well articulated. Adiadokokinesis was definite. The deep reflexes of the arms were lively, but the right abdominal was absent. There was a clonus of the left gluteal muscle elicited by merely applying the hand in pressure. The knee-jerks were increased, but equal. The right tendo Achilles jerk was increased. A Babinski sign was definite on the right, not definite on the left. There were also a positive Gordon reflex and an akle clonus on the right. The trunk muscles showed some ataxia, but the gait was rendered peculiar more by the condition of the lower extremities. The patient walked on his toes as though they were springy stilts and he wobbled from side to side, unable to stand still. The Romberg sign was negative. This patient also had considerable arteriosclerosis with elongated aortic arch. The spinal fluid gave a colloidal gold curve with reduction in the middle three tubes.

This case conforms to the type of Marie and was characterized by an onset later than Friedreich's, and a spasticity of lower extremities with increased reflexes. But it lacked optic atrophy, which is common in Marie's type.

The patient claimed that he was greatly improved by our treatment and, much to our surprise, married shortly after our examination. One year later he was totally disabled.

The pathology, like the clinical picture, is not sharply defined. Marie believed that it was confined to the cerebellum, but later autopsies have shown more diffuse involvement.

* * *

Case 4. (Type of Marie, but much slower in progress than Case 3, and without total disability.) D. A. H. A man of sixty-five, with negligible family history and no relevant personal history, began at the age of thirty to notice poor control of his feet, with frequent stumbling.

Neurological examination gave the following: Strength and endurance were much reduced; slight diplopia in the primary position and on looking up; a marked constriction of the fields of vision; marked nystagmus; speech difficult, thick, indistinct; wasting of all muscles, worse about the shoulder girdles; absent abdominal reflexes, but diminished tendo Achilles jerks; occasional cramps in the calves of the legs and a slow clumsy ataxia of the trunk muscles and hypermetria of the lower extremities with a reeling cerebellar gait. There were no pathological reflexes present and no sensory disturbances.

This case had progressed slowly without remission for at least thirty-five years and this was the strongest evidence that it was not one of multicple sclerosis of the cerebellar type.

* * *

Case 5. (Type resembling multiple sclerosis.) M. J. A man of thirty-four years was brought for progressive stiffness and weakness with staggering and difficulty in walking. Patient was an orphan and knew no family history or early personal history.

He stated that his trouble began at the age of twenty-six with insidious onset of uncertainty of the feet and a little staggering. After a time he had occasional falls because his feet dragged and caught in the carpet, doorsteps, etc. He never complained of any disability. When he was thirty-two, changes in his speech became constant. He was hardly able to make himself understood when he was self-conscious. A year later he noticed his hands getting clumsy and shaky; it was difficult for him to feed himself. He jerked often and very suddenly during sleep. One leg jerked violently at times. A Wassermann test had been taken, but had been reported negative.

Neurological examination gave the following information. There was an occasional slight diplopia and marked nystagmus on lateral fixation and on looking upwards. The fundi were negative, but there were constrictions of the fields of vision and relative scotomata. He had quite a dysarthria, especially for labials and linguals. A tremor of the tongue was present. Abdominal and cremasteric reflexes were lively. The right diaphragm did not move freely. There were frequent oscillations about the thighs. The deep reflexes of the lower limbs were much increased and occasional cramps in the calves of the legs were present. A dying clonus was present in both ankles. The gait was slow, unsteady and staggering, and he fell frequently, mostly backward. There was no real spasticity in the lower extremities. The spinal fluid was negative in every way.

It is readily seen that a differentiation from multiple sclerosis was not easy. The pathology was not that of sharply defined patches like multiple sclerosis, yet there was multiple involvement in the sense that many tracts were partially degenerated.

* * *

Case 6. (Type of Degerine and Thomas. Not hereditary or familial.) W. A. B., age sixty, with a clear family history and an irrelevant personal history up to seventeen months prior to our first examination. At that time he slipped on an icy stairway, grasped a banister and wrenched his back severely. After resting for some hours he went to his work and cntinued this for three weeks. He then began to lose control of his legs and would fall if he turned quickly.

Four weeks after the accident he decided to go to a hospital. To be taken there he walked down four flights of stairs without unusual difficulty, was taken to the hospital, but on arriving there he became acutely ill. The left leg became stiff, then jerked up in a flexion posture on the abdomen and gave severe pain in the hip joint. Doctors made a spinal puncture, but found nothing of help in diagnosis. Death within forty-eight hours was predicted. The abdomen bloated badly.

He remained in the hospital ten weeks, gradually becoming able to walk a little, when he had another attack of severe pain in the left leg. It was a little over a year after this episode that he first came under the observation of the writers.

A neurological examination gave the following information: There was slight diplopia on looking at distant objects. A vertical nystagmus in all positions and a rotary nystagmus on looking up were present. The left frontalis was drawn up continuously. The speech was jerky, ataxic, explosive. A clumsy ataxia of the neck muscles kept the head moving unless it was supported. A coarse tremor of the hands and hypermetria of the right hand were present. Adiadokokinesis was marked. The epigastric reflexes were not obtained. Hypermetria of the feet was present, and in harmony with this a reeling ataxic gait with so little effectual balance that falls occurred frequently unless another supported the patient. During locomotion or sitting without support to the trunk, a clumsy, slow titubation of the trunk muscles occurred. Spinal fluid was entirely negative.

This patient a year later received a very mild electric shock to the muscles of the lower extremities. The left leg was jerked up, and because of the total absence of synergy between the protagonists and antagonists the femur was fractured. In spite of all this he believed he was improving.

The diagnosis in this case was difficult, mostly because of the bizarre history. The actual relation between trauma and the onset of these conditions is not easy to evaluate. We are inclined to believe that there was no relation between the two since the patient felt well and worked for three weeks after the accident before he became ill. Such spasms of the limbs as occurred are not unknown, but are uncommon.

The pathology is that of an olive-ponto-cerebellar atrophy. Yet even here the circumscription is not absolute.

SUMMARY

The writers note a few points demonstrated by these cases which are valuable diagnostically.

1. Although optic atrophy may not have progressed to the stage of being visible in the eye grounds, a field of vision carefully plotted will often show a marked concentric contraction. This should militate against a diagnosis of multiple sclerosis.

2. The cerebrospinal fluid is usually negative in these cases. When it is abnormal, the only abnormality found is generally that of a colloidal gold curve.

3. These patients suffer a slowly but steadily progressive ailment which should aid in ruling out multiple sclerosis. But as a class they are optimistic and claim improvement when it does not occur, and hence mislead the physician.

4. The age of onset as given by the patient is usually actually much earlier than stated. Unless the history is taken from relatives or close friends, a wrong conception is often obtained because the onset is so insidious.

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THE LURE OF MEDICAL HISTORY

GALEN: GREEK, MEDIEVALIST AND MODERN*

PART II

By Sanford V. Larkey, M. D.
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SOME of Galen's most striking experiments on the nervous system are concerned with the production of the voice and respiration. In describing the anatomy of the recurrent laryngeal nerve, he compares its action to that of the glossokomion, a device for reducing fractures. In this, pull is exerted in opposite directions by having one set of ropes run around a pulley. He says: "This double course nature thought of before man . . . for the nerve descending across the neck to a part of the thorax, . . . mounts again from there to the larynx, where the nerves insert themselves into the muscles in question. Each of these six muscles is drawn down as if by hand." He very dramatically demonstrated its action in a living animal by cutting the nerve while the pig was squealing. The animal instantly stopped squealing. Galen often gave his demonstrations before large crowds and had a fondness for the theatrical.

His work on section of the spinal cord was fundamental. He says: "If one cuts one of the lateral halves (of the cord) obliquely or transversely, sensation and movement are destroyed on the same side and below the section, the animal is half motionless. He is completely motionless when the division of the cord is complete. . . . If one cuts the cord between the first and second vertebrae the animal perishes immediately. Between the third and fourth, respiration is abolished and the entire trunk and limbs are motionless and insensible. . . . Between the seventh and eighth . . . the animal breathes then only with the diaphragm, as it does when it has no need of great respiratory effort; for if it has run, if it is agitated by fever, or overcome by heat, the diaphragm is powerfully aided by the six superior muscles, by the intercostals, and by those of the abdomen. . . . If, then, one cuts the trunk of the phrenic nerve, or each of its roots one after the other, the superior muscles come into violent action, and accomplish themselves the act of respiration." He then shows the results when the nerves to the other accessory muscles are cut.

His experiments on the action of the kidneys and ureters also show careful operative technique and accurate observation.

"The fact is that those who are enslaved to their sects are not merely devoid of all sound knowledge, but they will not even stop to learn! Instead of listening, as they ought, to the reason why liquid can enter the bladder through the ureters, but is unable

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* From the department of medical history and bibliography, University of California Medical School.

* Read before the Alameda County Medical Society, February 16, 1931.

* For Part I, see April 1931 issue of California and Western Medicine, page 271.

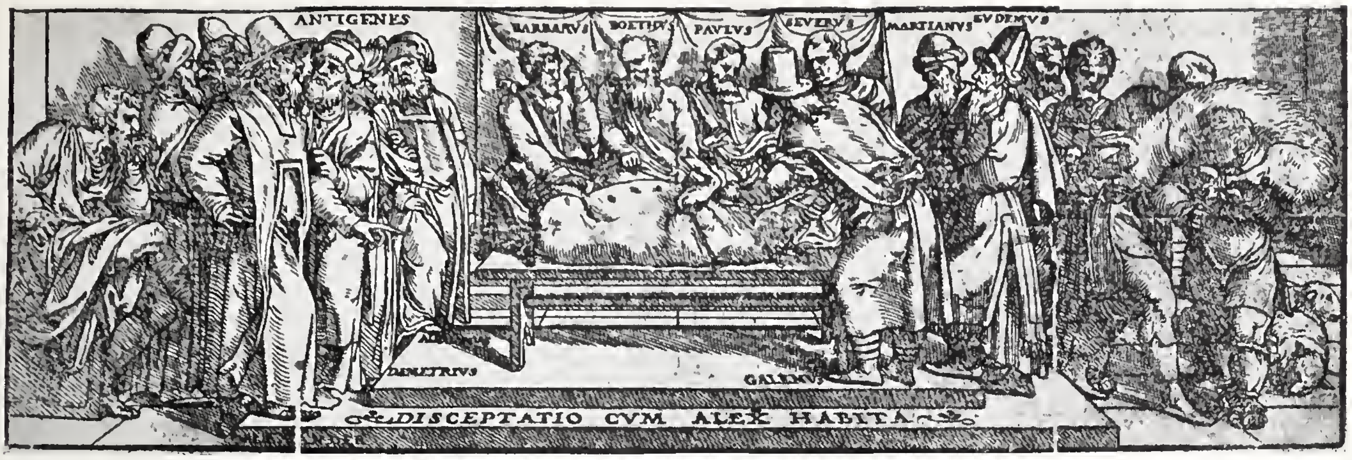

Fig. 4.—Galen demonstrating the function of the recurrent laryngeal nerve.

to go back again the same way—instead of admiring Nature's artistic skill—they refuse to learn; they even go so far as to scoff, and maintain that the kidneys, as well as many other things, have been made by Nature *for no purpose!*

* * *

"Now the method of demonstration is as follows: One has to divide the peritoneum in front of the ureters, then secure these with ligatures, and next, having bandaged up the animal, let him go (for he will not continue to urinate). After this one loosens the external bandages and shows the bladder empty and the ureters quite full and distended—in fact almost on the point of rupturing; on removing the ligature from them, one then plainly sees the bladder becoming filled with urine.

"When this has been made quite clear, then, before the animal urinates, one has to tie a ligature round his penis and to squeeze the bladder all over; still nothing goes back through the ureters to the kidneys. Here, then, it becomes obvious that not only in a dead animal, but in one which is still living, the ureters are prevented from receiving back the urine from the bladder. These observations having been made, one now loosens the ligature from the animal's penis and allows him to urinate, then again ligatures one of the ureters and leaves the other to discharge into the bladder. Allowing, then, some time to elapse, one now demonstrates that the ureter which was ligatured is obviously full and distended on the side next to the kidneys, while the other one—that from which the ligature had been taken—is itself flaccid, but has filled the bladder with urine. Then, again, one must divide the full ureter, and demonstrate how the urine spurts out of it, like blood in the operation of venesection; and after this one cuts through the other also, and both being thus divided, one bandages up the animal externally. Then when enough time seems to have elapsed, one takes off the bandages; the bladder will now be found empty, and the whole region between the intestines and the peritoneum full of urine, as if the animal were suffering from dropsy. Now, if anyone will but test this for himself on an animal, I think he will strongly condemn the rashness of Asclepiades, and if he also learns the reason why nothing regurgitates from the bladder into the ureters, I think he will be persuaded by this also of the forethought and art shown by Nature in relation to animals." [2]

While Galen's therapeutics is chiefly famous for its polypharmacy, his name still surviving in our "Galenicals," he was a really great physician. A true follower of Hippocrates, he considered the patient as an individual, basing his treatment on careful diagnosis. He relied greatly on the healing power of nature, and placed stress on hygiene, rest, diet, and exercise. The following description of cases, while differing from the simple, concise histories of Hippocrates, will show something of his method. They also give many insights of his character, his conceit and contentious nature.

"I was called in to see a woman who was stated to be sleepless at night and to lie tossing about from one position into another. Finding she had no fever, I made a detailed inquiry into everything that had happened to her, especially considering such factors as we know to cause insomnia. But she either answered little or nothing at all, as if to show that it was useless to question her. Finally, she turned away, hiding herself completely by throwing the bedclothes over her whole body, and laying her head on another small pillow as if desiring sleep.

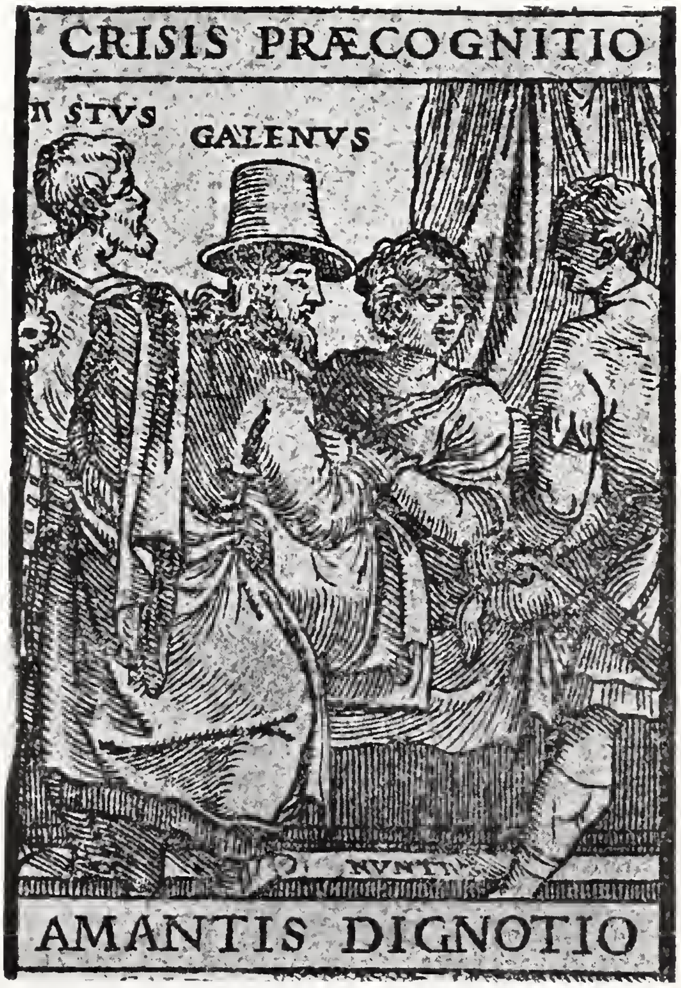

Fig. 5.—Galen and the woman who was in love with Pylades.

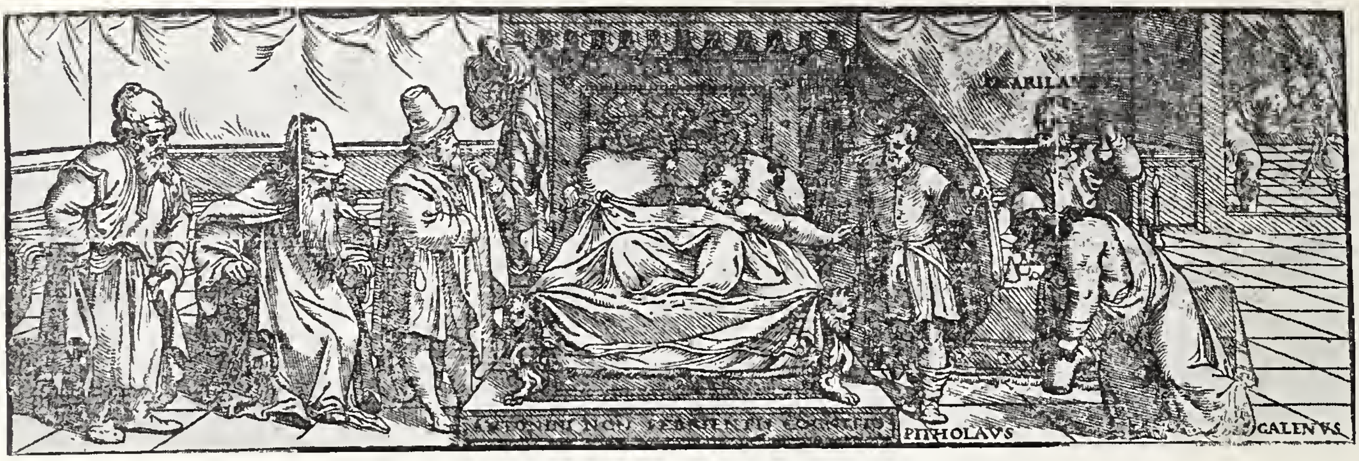

Fig. 6.—Galen is called to treat the Emperor, Marcus Aurelius.

"After I had diagnosed that there was no bodily trouble, and that the woman was suffering from some mental uneasiness, it happened that, at the very time I was examining her, this was confirmed. Somebody came from the theater and said he had seen Pylades dancing. Then both her expression and the colour of her face changed. Seeing this, I applied my hand to her wrist, and noticed that her pulse had suddenly become extremely irregular. This kind of pulse indicates that the mind is disturbed; thus it occurs also in people who are disputing over any subject. So on the next day I said to one of my followers, that, when I paid my visit to the woman, he was to come a little later and announce to me, 'Morphus is dancing to-day.' When he said this, I found that the pulse was unaffected. Similarly also on the next day, when I had an announcement made about the third member of the troupe, the pulse remained unchanged as before. On the fourth evening I kept very careful watch when it was announced that Pylades was dancing, and I noticed that the pulse was very much disturbed. Thus I found out that the woman was in love with Pylades, and by careful watch on the succeeding days my discovery was confirmed."

* * *

"What happened in the case of the Emperor himself was really wonderful. His own opinion and that of the physicians of his entourage who had gone abroad with him was that some febrile paroxysm had begun. But they all proved wrong both on the second and third day, in the morning and at the third hour. He had on the preceding day taken a draught of bitter aloes at the first hour, and then some theriac as was his daily custom. Next he took some food about the sixth hour, washed at sunset, and had a small meal. During the whole night there ensued colicky pains with intestinal evacuations. This made him feverish, and when his attendant physicians observed this, they gave orders that he should be kept quiet; then they prescribed slop diet at the ninth hour. After this I was myself also summoned to come and sleep in the Palace. Then, when the lamps were newly lit, a messenger came to call me at the Emperor's bidding. Three doctors had been observing him since about daybreak, and two of them feeling his pulse, and they all considered this the beginning of a febrile attack. I stood by, however, without saying anything; so the Emperor, looking at me first, asked why, when the others felt his pulse, I alone did not do so. I said to him, 'Two of these gentlemen have already done this, and probably when they were abroad with you they already learned by experience the characteristics of your pulse; hence I expect they will be better able to judge its present condition.' On my saying this he bade me also feel his pulse. It seemed to me that, taking his age and constitution into account, the pulse was far from indicating the beginning of a febrile attack. I declared that this was no onset of fever, but that his stomach was overloaded by the food he had taken, which had turned to phlegm prior to ejection.

"My diagnosis seemed praiseworthy to the Emperor, and he repeated three times in succession: 'That's it. It is just what you say. I feel I have taken too much cold food.' And he asked what was to be done. I answered what I knew, and said to him: 'If it were anyone else who was in this state, I should follow my custom and give him wine sprinkled with pepper. But in the case of kings like yourself, physicians are in the habit of giving safer remedies; hence it will be enough to apply over your stomach some wool impregnated with warm spikenard ointment.' The Emperor said that in any case when his stomach was out of order he was in the habit of applying warm spikenard ointment enveloped in purple wool. So he gave orders to Pitholaus to do this, and to let me go. When this application had been made, and his feet thoroughly heated by rubbing with the warm hand, he asked for some Sabine wine, sprinkled pepper in it, and drank. He then declared to Pitholaus that he had 'one physician, and he was a perfect gentleman.' Further, as you know, he keeps constantly saying about me that I am 'first among the physicians and alone among the philosophers.' For he had already had experience of many who were not only mercenary, but also quarrelsome, conceited, selfish, and malicious. . . . "

* * *

"Thus another case was that of an individual who stated that he was suffering extreme pain in his knee. He was one of those slaves who run alongside their masters in the streets. I observed that there was some pretence in this pain, my suspicions being aroused partly by the fact that the master was leaving town that day, and partly also by the young man's character, as he was just the sort of man to tell lies of this kind. I therefore asked one of his fellow-slaves who knew him well whether the young fellow was in love with any young woman, on whose account he was likely to wish to remain at home when his master was starting for a somewhat long journey. And it was so.

"Such matters, then, are resolved by external considerations. On the knee itself, however, was an extensive swelling, which might have alarmed a layman, but which to the expert in these matters had obviously been produced by *thapsia* (a substance like mustard). Such a conclusion is the result of medical experience, and not one of those arrived at by external considerations. Also belonging to medical experience was the recognition that nothing had lately happened to him which could have suddenly brought about such a swelling. He had not been running overmuch, he had not been struck by anybody, he had not hurt himself by leaping or jumping over ditches. . . . Further, when I asked him what the pain was like, he did not give quick, ready, or consistent answers. Hence, when his master had left, I applied a drug which, while possessing no anodyne quality, was adapted by virtue of its chilling action for removing the condition produced by thapsia. After one hour I had him confessing that he had absolutely no pain, whereas, if the pain had actually come from inflammation, it would not merely not have been checked but actually made more severe by a cooling application."[1]

In all of his writings Galen appears as a very real person and seems much closer to us than Hippocrates. While we may not always agree with him, we cannot help liking him. In closing I will quote Charles Daremberg: "To appreciate the achievements of Galen, we must realize that it was practically impossible to go much further in science in the age in which he lived."

University of California Medical School.

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CLINICAL NOTES AND CASE REPORTS

STOMATITIS APHTHOSA WITH SYSTEMIC COMPLICATIONS

REPORT OF CASE

By Sophie A. Lurie, M. D.
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The etiology and pathogenesis of stomatitis aphthosa are still obscure.

REVIEW OF LITERATURE

O. Ganss[1] described the observations of his experimental works on guinea pigs, and came to the conclusion that stomatitis aphthosa is possibly due to a mixed infection.

B. Peiser[2] compared his own experiments on rats with those of Ganss' and obtained similar results without any definite conclusions.

Phillip Varney[3] quotes Keilty (1922), who on examining the gums of two hundred patients, found fusiform bacilli and spirochetes in almost every case. McKinstry (1917) found organisms similar to fusiform bacilli and spirochetes in the mouths of 95 out of 230 healthy recruits during the war. Brams and Pilot (1923), Tunniclift (1923), and others have observed them in the normal tonsils.

A wavy type of fusiform bacillus has been isolated in which may be found spiral-like forms, so closely resembling true spirilla at certain stages of their growth, as to lead to confusing these spiral forms, which are *nonmotile and are present only for a short period of time,* with true spirilla to which they have no relationship.

J. Gerstenberger[4] states that the administration of water soluble vitamin B produces in herpetic stomatitis, aphthous stomatitis, herpes labialis, acute gingivitis, and ulcerative stomatitis a remarkably rapid improvement and recovery. Thirteen children and one adult in whom these conditions appeared either singly or in combination were well nourished and partook liberally of food until the stomatitis appeared. It is suggested that the primary etiologic factor in these cases is metabolic and nutritional and that any rôle that bacteria or similar agents may play is secondary.

J. W. Auld[5] states that the latent pathogenic bacteria which are usually present in the mouth and throat are able, because of added virulency, to invade the host whose resistance has been lowered. A variety of unhealthy conditions may arise from stasis of the intestinal contents. It is the opinion of many authorities on the subject, that pathogenic micro-organisms in the intestinal canal which remain there as infectious organisms, gain their entrance chiefly by swallowing infectious material from the mouth, throat, nose and through infected food.

J. Basch[6] presumes that Aphthenkrankheit is probably due to a certain predisposition and bacteria; the latter play a secondary role as a harmless permanent flora of the mouth of the host. Under certain circumstances producing a predisposition, conditions become pathogenic and an eruption involves the mucous membrane of the mouth perhaps as a phenomenon of a certain allergy. E. Flusser[7] claims that stomatitis aphthosa is a genuine acute infectious disease, the cause of which is unknown.

REPORT OF CASE

F. K., a Jewish boy, fifteen years old, well nourished and normally developed. Had mumps a few years ago. The family history was negative. The patient was an inmate of an orphans' home (Vista Del Mar, Palms, California). The board, rooming, and hygienic conditions were highly satisfactory; he was one of the healthiest and cleanest among the hundred inmates. He took sick suddenly on April 27, 1927, complaining of headache, sore throat and sore gums, with a temperature 101.2 and pulse of 100.

Examination revealed: lungs, heart, and abdomen negative; tonsils and gums showed redness. Next morning, April 28, the throat and tonsils became highly inflamed and dotted with whitish-yellow plug-like deposits the size of a pin-head; single minute shallow ulcerations were scattered over the lining of the mouth. The tongue was slightly coated. The gums appeared inflamed and swollen and discharged a seropurulent fluid. The submaxillary and cervical lymphatic glands became enlarged (the size of a pigeon egg) and painful. Temperature rose to 102.2 degrees; pulse, 104. Urinalysis gave negative results. Bacterioscopic examinations of the deposits of the tonsils and the discharge from the gums revealed diplococci, staphylococci, and *numerous spirochetes.*

On April 29 a crop of small vesicles, less than a pin-head in size, yellowish-gray with a red circle around them, appeared on the hard and soft palate and on the lingual and buccal aspects of the gums; the gums became more puffed and very loose. A slightly fetid odor appeared. A moderate diarrhea occurred. Repeated microscopic examinations of the discharge from the gums and vesicles revealed diplococci and staphylococci. The spirochetes disappeared, following use of mouth wash and gargle of three per cent solution potassium chlorate. The patient appeared ill. Gradually the condition improved, becoming almost normal. On May 4 the swelling of the glands subsided, stools seemingly normal, the patient felt well and appeared fully recovered. But the same day, late in the afternoon, the stools became frequent and watery and filled with ribbon-like strips of mucus. Following medication, the bowel movements again became normal the next day. Twenty-four hours after, diarrhea ensued and a giant urticaria appeared on both legs. In forty-eight hours, the same eruption showed up on the face and here and there on the trunk. The papillae of the upper gums again became swollen, their edges ragged. This giant urticaria lasted five days during which time the eruption in the mouth almost disappeared, except for the papillae of the upper gums in the region of the central incisors. These were slightly puffed, cyanotic and macerated on the palatal aspect. In a few days the boy recovered entirely and has had no relapses since.

CONCLUSIONS

Stomatitis aphthosa with systemic conditions is not frequently encountered. In this case it was striking to see a sudden severe development of the disease in a strong and healthy boy despite the satisfactory mode of living; and to note the numerous spirochetes in the discharge from the gums and vesicles of the mouth. The general malaise, temperature, the enlarged and painful cervical lymphatic glands, highly inflamed loose gums almost detached from the alveolar ridge, which were discharging a seropurulent fluid; moderate diarrhea on the second day of the onset of the disease, showed that the absorption from the mouth had begun at once.

Seeking for the cause of the disease we were compelled to reject the idea that it was due to the spirochetosis, because following administration of three per cent solution of potassium chlorate, all spirochetes disappeared in twenty-four hours and repeated examinations of the smears revealed diplococci and staphylococci only. Fungi and yeasts were never found.

Varney,[3] who quotes a number of authors, states that fusiform bacilli and spirochetes may be found in normal tonsils and certain spiral-like forms can be found in the mouth for a short length of time.

In accordance with Gerstenberger[4] we presume that the metabolic and nutritional factors might have played a certain rôle in this case, therefore from the very beginning we considered the case not only from the standpoint of an infection, but of an avitaminosis or vitamin deficiency disease, as scurvy. Accordingly, the treatment was partially carried out along these lines.

Some symptoms of this case may be considered as a result of a certain predisposition, which, according to Basch,[6] produced the vesicular eruption in the mouth. A few days later, while the patient's condition had markedly improved and all visible symptoms seemed almost vanished, suddenly diarrhea with ribbon-like mucous strips occurred and in forty-eight hours afterwards a giant urticaria followed. These manifestations may be regarded as a phenomenon of the same allergy as that which produced the eruption in the mouth. How else can these systemic symptoms be explained? Together with Auld[5] we can believe that the pathogenic flora of the intestines become activated by the swallowed infectious material from the mouth, throat, and nose or because the pathogenic material from the mouth was very toxic and absorption began at once, making an entirely healthy boy ill within twenty-four hours. What kind of an infection could produce such a toxic condition?

Because of certain circumstances we could not make cultures and inoculations to animals. We were forced to remain satisfied with the results of bacterioscopic examinations, which detected only diplo- and staphylococci. As very few articles on stomatitis aphthosa were found and no cases with systemic symptoms like those above described, it is assumed that this case might be of interest to those studying aphthous stomatitis.

TREATMENT

Treatment was carried out along three lines:

First, physics such as milk of magnesia and copious drinks to eliminate the infection were given as soon as possible.

Second, local symptomatic treatment was applied, such as Prissnitz's compresses to the neck, mouth wash and gargle with three per cent solution of potassium chlorate and a lotion of potassium permanganate 1:4000. The mucous membrane of the mouth was painted with mild solution of silver nitrate, and later with a solution of two per cent mercurochrome.

Third, considering the condition of the gums as scurvy-like we administered orange juice in liberal quantities. The general diet first consisted of broth, milk, cocoa, jello, soft cereals, gradually increased to a regular diet, with the addition of orange juice. During the exacerbation of diarrhea, milk of magnesia was administered again; later salol and bismuth subnitrate.

610 South Broadway.

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FOREIGN BODY IN THE ESOPHAGUS FOR THREE YEARS*

By A. Lincoln Brown, M. D.
San Francisco

It is not at all unusual for a foreign body to be swallowed and become lodged in the esophagus. It is, however, very unusual for such a foreign body to remain lodged for a period of years and, as in the present instance, for practically the entire previous life of the individual concerned. The following case is of interest, then, both because of the length of time the foreign body remained in the esophagus and by reason of the technical measures adopted for its removal.

REPORT OF CASE

University of California Hospital Number 78290. Admitted September 30, 1930.

The patient was a male child of about 3 years of age. When he was about 3 months old he was noted to have aspirated or swallowed a small metal ring about the size of a five-cent piece. Nothing was done about this, although shortly thereafter the baby began to cough and was taken to a physician to be treated for a "cold." For the next three years the patient suffered from intermittent seizures of coughing, followed by short periods of freedom from cough. During these periods of cough, great difficulty was experienced in feeding any bulky foods. The child's development progressed fairly well, aside from this cough, until three weeks before the present entry, at which time the cough increased. He became weak, irritable, lost weight and refused to eat. He was taken to Doctor Callahay, of Madera, who took an x-ray of the patient's chest, which showed a foreign body in the region of the esophagus at the sternal level. The patient was then sent to the University of California Hospital for the removal of this foreign body. Aside from the present illness, the family history and the past history are essentially negative.

Physical Examination.—The child was an undernourished Mexican baby, very irritable, who cried continuously. He had a constant hard, croupy cough. The skin was warm, brown and dry. The mucous membranes were slightly pale. A small submaxillary node was palpable on the left side. The head was normal, except for slight enlargements of the parietal bossae; eyes normal. There was slight discharge from both ears. The teeth seemed in good condition. The nasal pharynx was moderately injected and there was marked enlargement of both tonsils, especially on the left. The trachea was in the midline. The thorax showed slight lateral flaring of the rib cage. Both sides moved equally on respiration. The lungs were resonant throughout; no râles were heard, but there was a harsh tracheal inspiratory note. The heart was within normal limits to percussion, sounds of good quality and no murmurs audible. The abdomen and extremities were essentially negative. The back showed slight lateral scoliosis to the left.

Laboratory and X-ray Findings.—Urine: Albumin negative. Sugar, faint reduction. Acid reaction. Microscopically: Much amorphous urates. Occasional pus cells.

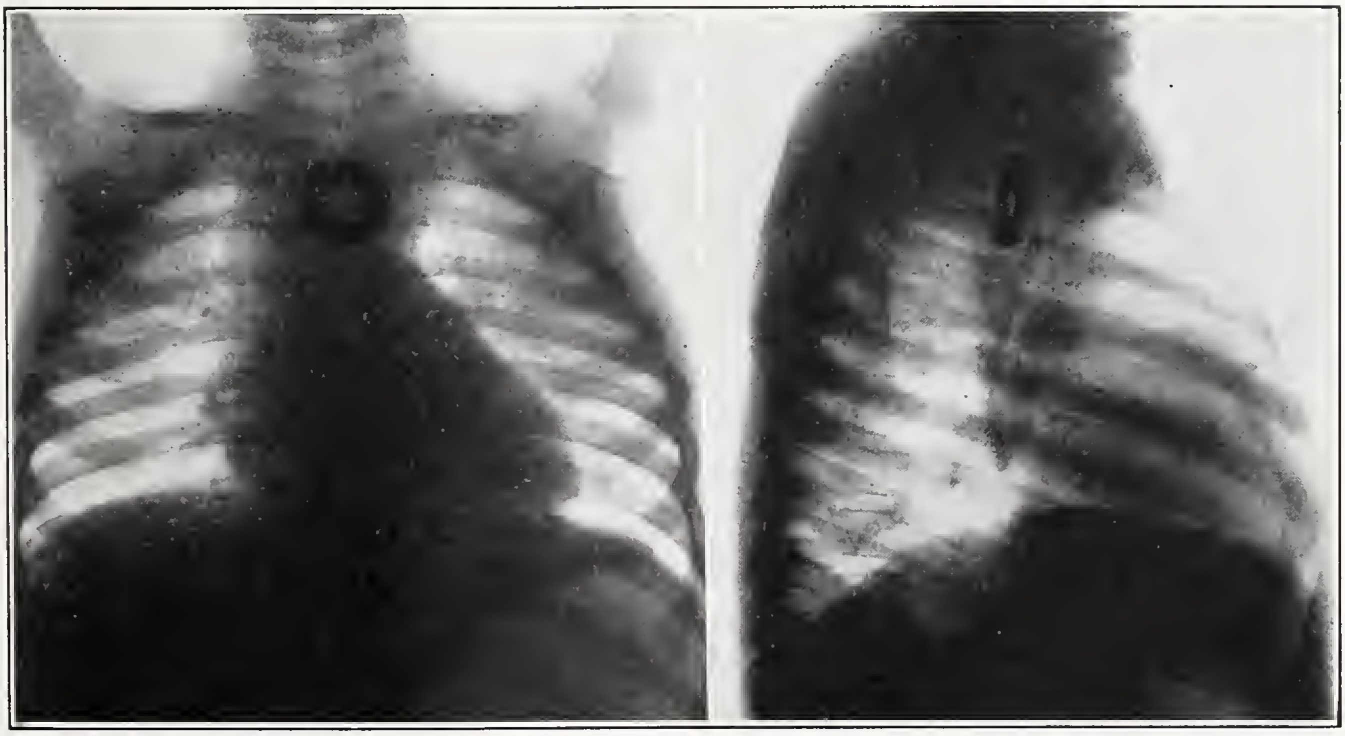
Blood: Hemoglobin, 75 per cent; red blood cells, 3,600,000; white blood cells, 14,000; polymorphonuclears, 46 per cent; lymphocytes, 45 per cent; PME, 2 per cent; mononuclears, 7 per cent.

Roentgen Ray Report on October 2, 1930.

Showed a metallic body of the shape of a washer about one inch in diameter lying in the esophagus almost behind the manubrium sterni. There was considerable widening of the mediastinal shadow in this region, suggestive of mediastinitis. The trachea appeared to be somewhat narrow at the level of the lower edge of the foreign body.

As the diagnosis of a foreign body in the esophagus was considered certain and as a low grade mediastinits appeared to be developing, immediate bronchoscopy was decided upon. This was done under open anesthesia.

Procedure.—A ten millimeter Brünings esophagoscope was inserted without difficulty. At a distance of twenty-five centimeters a corroded metal ring partially embedded in hypertrophied mucous membrane was seen. This was grasped with a hook and drawn



Figs. 1 and 2.—Anteroposterior and lateral views showing the foreign body (iron washer) in the esophagus in a transverse position about the level of the aortic arch. Marked widening of the mediastinal shadow is to be noted.

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* From the Department of Surgery, Division of Thoracic Surgery, University of California Medical School, San Francisco. The J. J. and Nettie Mack Foundation.

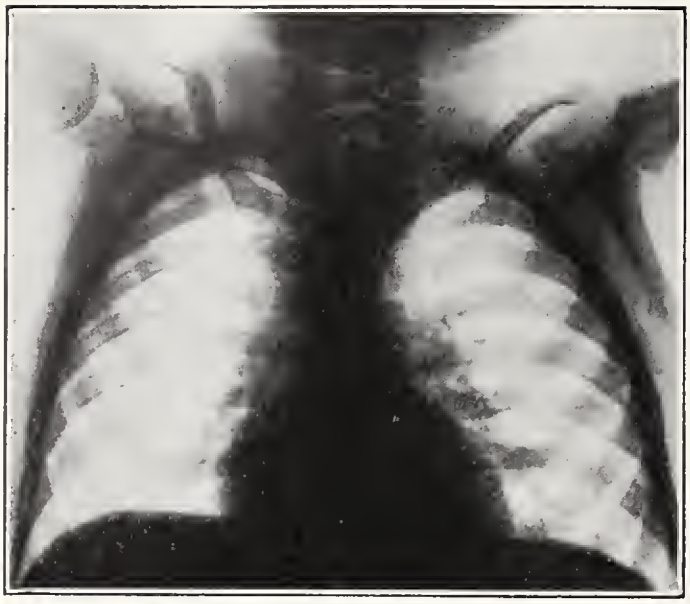

Fig. 3.—One week after the removal of the foreign body. Shows the mediastinal shadow decreased to its normal size, apparently by absorption of the inflammatory process.

in direct contact with the beveled end of the esophagoscope, so that only about one millimeter projected on each side of the esophagoscope. It was slowly withdrawn and a few streaks of blood noted. The ring appeared to lie diagonally across the esophagus, so that whatever food passed down the esophagus was obliged to pass through the hole in the ring. The entire mucous membrane was noted to be markedly hypertrophied and inflamed. The actual extraction was accomplished by grasping the far edge of the inside of the ring, thereby centering the ring over the beveled edge of the esophagoscope. (See Fig. No. 4.) Thus if the ring had been grasped at its proximal end, about one-half of its diameter would have protruded beyond the esophagoscope and would therefore have acted as a knife edge on extraction.

The postoperative course was uneventful. Roentgen rays taken about a week after the removal of the foreign body shows the mediastinal reaction to have diminished remarkably (Compare Figs. No. 1 and No. 3).

490 Post Street.

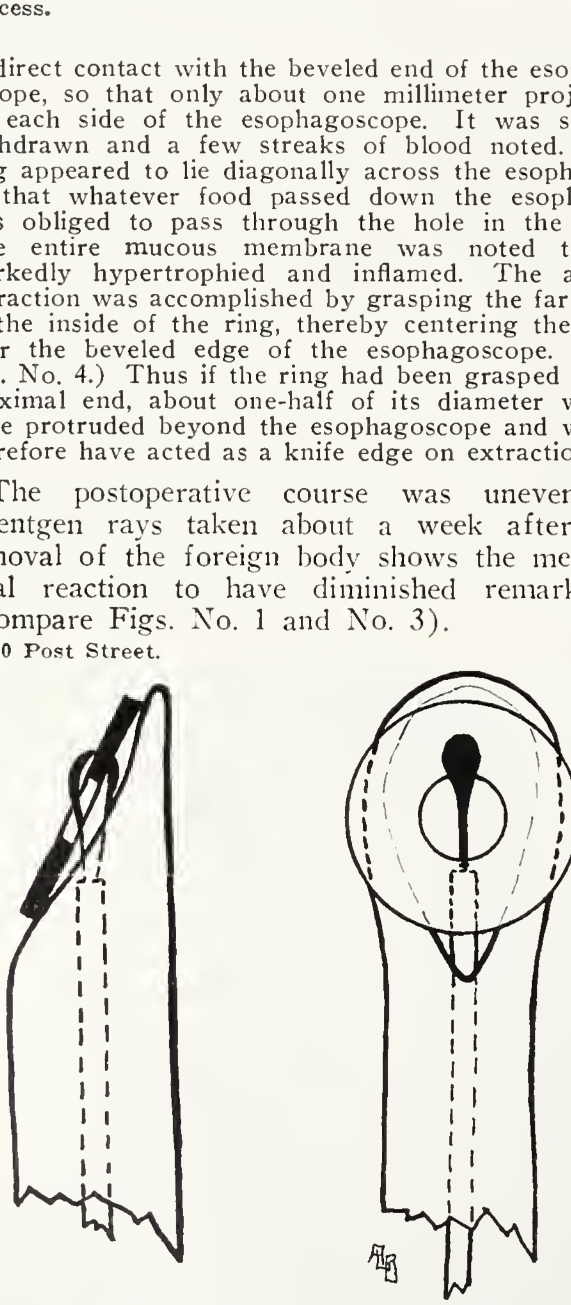

Fig. 4.—Diagrammatic representation of the method of extraction employed, showing how, by grasping the metal ring through the hole in its center, practically the entire foreign body was covered by the end of the esophagoscope. Withdrawal of the esophagoscope and the foreign body was done as a unit, thereby producing a minimum of trauma.

New State Health Program Bill Introduced Into Legislature.—A bill providing a new health program for New York State was introduced into the legislature on Monday, February 23. This bill embodies the major recommendations of the New York State Health Commission, whose preliminary report was transmitted to the legislature with a special message from Governor Roosevelt on February 19. The report was reviewed in the February 16 issue of *Health News*.

The principal provisions of the bill are:

"Each county shall establish a county health district and appoint a county board of health to provide for the rural areas and the villages in order more effectively to control tuberculosis, the venereal diseases, and other communicable diseases; to protect maternity and infancy; to safeguard public water and milk supplies; to secure more effective public health nursing service, and other essentials of a modern public health program.

"Each county board of health shall appoint a county health commissioner who shall devote his entire time to the duties of his office. In county health districts which have a population of less than thirty thousand such county boards of health may designate, with the approval of the state commissioner of health, a district state health officer to act as county health commissioner without additional compensation and whose appointment as such county health commissioner shall terminate upon the appointment of a county health commissioner.

"Local health officers now in office shall continue as deputies of the county health commissioner for the term for which they previously had been appointed, and thereafter at the discretion of the county board of health.

"Cities are not included within the county health district and will retain their boards of health and health officers unless the city elects by appropriate action to become a part of the county health unit and the board of supervisors concurs.

"The effective date for the appointment of county boards of health is set not later than September 1, 1931, and the appointment of county health commissioners not later than December 1, 1931.

"The county health commissioner shall within the county health district possess all the powers conferred upon and perform all the duties required of local health officers and shall have authority to investigate and abate public nuisances which may affect health."

The public health law, Article II-B, provides state aid to counties engaged in public health work; consequently upon the establishment of the county health district the state, pursuant to provisions of said act, will reimburse the county for one-half of moneys expended in public health work. The county is the only unit to which state aid is given; consequently the county will be able to do much more public health work through the county board of health and receive reimbursement as above indicated. — *Health News*, March 9, 1931.

New Hampshire's Unemployment Aid for Mothers. The first bill signed this year by the Governor of New Hampshire made $75,000 immediately available during the first four months of the year to assist mothers and children affected by unemployment. This augments the state's current appropriation of $45,000 for mothers' aid. It is to be used to care without delay for waiting applicants and to extend aid to mothers and their children rendered temporarily dependent by the unemployment either of the mother or of the person upon whom she usually depends. The law stipulates that the aid given by this fund is not to replace that of county, city, or town, but may supplement it. The Governor and the State Board of Education are made jointly responsible with the State Board of Public Welfare for administration of the fund.—*U. S. Children's Bureau,* Washington, D. C.

BEDSIDE MEDICINE FOR BEDSIDE DOCTORS

An Open Forum for brief discussions of the workaday problems of the bedside doctor. Suggestions for subjects for discussion invited.

SURGERY OF THE INFANT ABDOMEN

JOHN HOMER WOOLSEY, SAN FRANCISCO.—Surgery of infants today has a decreased mortality over that of ten years ago due chiefly to the wiser attention paid to the patient's general care. Judicious attention to the patient as regards fluid intake and output; light and short anesthesia; limited and definite surgical procedures; and gentleness in handling and protection to the tissues, permits surgery that previously one would not consider. For these reasons one can today recommend surgical repair for inguinal hernia in infants where heretofore a most conservative opinion ruled.

INGUINAL HERNIA

Inguinal hernia in infants has been estimated to occur in variable degrees, but five to seven per cent seems the average. Of these approximately five-tenths per cent develop some complication in infancy or childhood. Coley reported that out of fifteen thousand cases of adult inguinal hernias one-third existed in childhood. In addition, it is a rather general opinion that the majority of oblique inguinal hernias are due to a congenital weakness. If accurate statistics were kept, I believe it would be shown that the majority of inguinal hernias that are present in early infancy, but disappear with, or without, treatment, recur later in adult life.

In the treatment the use of pressure bandages such as adhesive, the yarn truss, or the mechanical truss, have yielded actually and solely but few, if any, complete obliterations of the patent funicular process. Personally, I have never witnessed any direct value from their use. The keeping of the child in a healthy state of tissue growth and a contented humor does more, for it allows a continuous approximation of the walls of the funicular process. This approximation is necessary if the apposing surfaces of the hernial sac are to heal or unite. Inguinal hernias in infancy at times have been observed, for some reason not accurately explained, to disappear and to remain so. It is possible for this phenomenon to occur during the first three months, and it may happen at even a greater age. However, it is doubtful if it occurs after six months, and so a period of six months is arbitrarily set before surgical correction is recommended.

Surgical correction of inguinal hernia in infants consists primarily in a high ligation and obliteration of the sac. The closure of the internal oblique and conjoined tendon to the inguinal ligament is advisable but not compulsory, for the defect is not in the muscle wall. It is in the failure of the funicular process of the peritoneum to close. Transplantation of the cord is unnecessary and unwise at this early age.

Strangulated, incarcerated, and recurring inguinal hernias with intra-abdominal strain are already recognized as needing surgical repair. The other inguinal hernias of the infant that exist after the age of six months should be repaired surgically early in life—preferably by the age of eighteen months.

* * *

APPENDICITIS IN INFANCY

CHARLES M. FOX, SAN DIEGO.—The last few years have seen a marked improvement in the results of the treatment of appendicitis in infancy, due to earlier diagnosis. Until recently the subject has usually been dismissed with a statement something like the following:

"Appendicitis in infancy is not very common and the diagnosis is difficult. Most cases are not operated upon until the appendix has ruptured, and in many instances the diagnosis is made at autopsy."

This is still true in fact, but thanks largely to the pediatricians we now not infrequently see these patients early, that is, before rupture. The trained infant specialist, accustomed to seeing all sorts of acute illnesses, will much more quickly recognize the unusual condition at a glance. If one waits for the classic picture, most cases will be overlooked.

Perforation occurs in a greater percentage of cases than in adults, though this percentage is being materially lessened by earlier diagnoses. Once perforation occurs, the mortality becomes definitely higher than in adults under the same circumstances.

Reviewing briefly the symptoms, the first we have to consider is pain. The location of the pain is variable. I have several times had a child of two years of age refer the pain to the back. In an infant, of course, all we know is that there is a pain somewhere. Pain does not seem to be so constant as in adults. I have occasionally seen a free interval of an hour or two at a time with an acutely inflamed appendix.

Nausea and vomiting, so common to almost any upset in an infant, are suggestive when it is observed that vomiting has no apparent effect on the pain or apparent distress.

The temperature is usually elevated, but does not often go above 101 or 102.

The pulse varies. In general a very rapid pulse indicates a high grade of toxemia.

Tenderness and rigidity are by long odds the most important finding. It is, however, at times very difficult to determine their presence, and physicians who care for and understand infants and young children can frequently elicit this sign much more rapidly than others, due to the coöperation of the patient. If the appendix is retrocecal, deep palpation may be necessary before pain is caused. The presence of tenderness and rigidity in a suspicious case is enough to justify operation.

Rectal examination in an infant is of value if there is an abscess, but as an indication of early tenderness it is not often useful since the discomfort of the examination itself is considerable.

The blood count usually varies from 7000 to 15,000 plus, and the polynuclear cells from 70 to 90 per cent. A white count of 15,000 practically always means pus.

An acute attack is sometimes followed by the passage of considerable mucus for a few days, making one believe that he has been dealing with a colitis, which condition, however, rarely occurs in infants, except with dysentery. In one such case I made this diagnosis twice, and refused to operate, against the judgment of the pediatrician who was caring for the child, only to remove a ruptured appendix during the third attack. The treatment is practically the same as in adults—immediate operation before rupture, operation after abscess formation being done according to the condition of the individual case. Occasionally after operating on a fairly typical case with relatively mild but definite symptoms, an appendix but little inflamed will be found, associated with many enlarged mesenteric glands, the symptoms in this instance, of course, being due to the glands. Incidentally, these patients run a temperature for several days after operation.

I have said nothing about differential diagnosis, which must be made from acute illnesses with abdominal pain and distention. I was once asked to operate on a child of eighteen months, and found a typical scarlet fever rash present.

Acute respiratory infection must be ruled out as well as acute pyelitis. I believe that in these cases of suspected appendicitis the surgeon should at times take the judgment of the pediatrician rather than trust to his own. My experience has justified this procedure more than once.

* * *

PYLORIC STENOSIS IN INFANTS

Guy Cochran, Los Angeles.—Nothing in the surgery of children can be more depressing than the three weeks old baby who weighed eight or nine pounds at birth and now weighs five pounds (those who have lost 20 per cent or over of body weight are bad risks)—the cry of starvation is like nothing else; the loose folds of skin on his body (for three to one are males) are pathetic as of a wrinkled, old man; the projectile vomiting is tragic in its exhaustion.

Before operation the baby has been given fluids; on the table his body is surrounded by cotton packs; a general anesthetic is used. Through an upper right rectus incision three centimeters in length the tumor is located and with a rubber-covered hook it is brought outside the abdomen; an artery clamp is placed on the abdominal wall underneath the tumor mass to hold it in position. A longitudinal incision is made the length of the tumor. This is deepened by spreading with a small artery clamp, and this blunt dissection is carried on until the mucosa appears below. Every fiber must be broken, for we have had one recurrence of symptoms and on secondary operation found three small threads of fiber which had been left. This blunt dissection must be done with most extreme care, for at the gastric end there is much thickening from edema while at the duodenal end the tumor thins out rapidly and bleeds easily. If bleeding occurs, it is not possible to clamp the bleeder without tearing a hole into the duodenum with leakage and subsequent peritonitis, so we have closed our tumor incision to stop bleeding by pressure and started all over again. Sufficient width of tumor tissue must be removed to allow the mucosa to bulge into the entire length of the incision.

Before closing, the abdomen is filled with salt solution; the wound is sutured as in adults, using two deep stay sutures, for the rectus muscle is small and any postoperative vomiting is a severe strain upon it.

The baby usually vomits once during the afternoon following, but probably never again. Convalescence is rapid. Through the entire care of these cases the fullest coöperation is required between pediatrician and surgeon.

Nothing in the surgery of children is more satisfying than to have a mother bring a sturdy four or five-year-old boy into the office to proudly show off what was once her pyloric stenosis baby.

United States Division of Mental Hygiene, Formerly Called Narcotics Division.—In a recent report Surgeon-General H. S. Cumming of the Public Health Service indicates that the year ended June 30, 1930, has been characterized by additional legislation seeking to coördinate and crystallize the functions of the Narcotics Division, now designated by law as Division of Mental Hygiene.

At the close of the year, the functions of the Division of Mental Hygiene, in the office of the Surgeon-General, included the administration of the two recently authorized United States narcotic farms; studies and investigations of the nature of drug addiction and the best method of treatment and rehabilitation of persons addicted to the use of habit-forming drugs; the dissemination of information on methods of treatment and research in this particular field; coöperation with state and local jurisdictions with a view to their providing facilities for the care and treatment of narcotic addicts; the supervising and furnishing of medical and psychiatric service in federal penal and correctional institutions; studies and investigations of the abusive use of narcotic drugs and the quantities of such drugs necessary to supply the normal and emergency medicinal and scientific requirements of the United States; and, lastly, studies and investigations of the causes, prevalence, and means for the prevention and treatment of mental and nervous diseases.

The site for the first United States Narcotic Farm has been selected at Lexington, Kentucky, and plans are under way for the development of the necessary buildings thereon. Medical officers have been assigned to the medical and psychiatric clinics established at the several penal and correctional institutions.—*United States Public Health Service.*

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Leaflet Regarding Rules of Publication.—California and Western Medicine has prepared a leaflet explaining its rules regarding publication. This leaflet gives suggestions on the preparation of manuscripts and of illustrations. It is suggested that contributors to this journal write to its office requesting a copy of this leaflet.

EDITORIALS*

THE SAN FRANCISCO ANNUAL SESSIONS OF 1931 AND 1906—TWENTY-FIVE YEARS

May California and Western Medicine in Press Before Sixtieth Annual Session Convenes.—This, the May number of California and Western Medicine, goes to press before the opening meeting of this year's annual session of the California Medical Association. It is not possible, therefore, to discuss at the time this is written the happenings at the 1931 annual session. If the program as printed in the April California and Western Medicine can be taken as a criterion, it may be assumed that the meeting will be highly successful in every way.

* * *

Greetings: To Retiring President Kinney, to President Harris, and to the New President-Elect.—The presidential address by Dr. Lyell C. Kinney on "The Cancer Program" is printed in this issue, page 321, and is commended to the thoughtful consideration of all readers. Particularly our Retiring President's suggestions that the profession accept its responsibilities in this major public health problem by doing something tangible and constructive in California, as by him indicated.

In this connection it is fitting to express the appreciation of the medical profession to Doctor Kinney for his willingness during the last year to meet his presidential responsibilities in fullest measure. His visitation work was especially commendable and sets a worthy standard for his successors, and shows how valuable could be such field visitation, a something which Dr. Percy T. Phillips of Santa Cruz strongly advocated when he was president of the California Medical Association.

To this year's president, Dr. Junius B. Harris of Sacramento, also are extended the good wishes of the members of the California Medical Association. Dr. Harris assumes office as president at a time when the legislature is in session at Sacramento, the tentative date for adjournment having been set for May 8. We wish that all members of the California Medical Association could only know how much time, effort and efficient service Dr. Harris has rendered organized medicine in his other official position as chairman of the California Medical Association Committee on Public Policy and Legislation. Doctor Harris, himself a very busy physician and surgeon, has at all times been willing to serve the profession in legislative matters, and his excellent work in that field is the best indication of how he will strive to meet his new responsibilities, as he steps from the domain of president-elect into that of the active presidency. We feel certain that he will follow up President Kinney's visitations, by himself contacting during the coming year with as many of the county societies as possible.

To the new President-elect of the California Medical Association, whosoever is to receive that great honor, California and Western Medicine, on behalf of the members of the California Medical Association, also extends greetings.

* * *

The Memorable San Francisco Annual Session of Twenty-five Years Ago.—To the minds of older members of the California Medical Association who were in attendance at the San Francisco annual session of twenty-five years ago, and among whom the editor was one, must come back on such an occasion as this year's session at San Francisco a somewhat vivid recollection of the rapidly moving events following the great earthquake and fire catastrophe of 1906. In the Twenty-five Years Ago column of this number of California and Western Medicine are printed a number of excerpts from the brief four-page May 1906 number of our official journal. All readers of California and Western Medicine may well take the time to read what the founder of this journal, the late Philip Mills Jones had to say in his extemporized four-page May number of that year. Particularly should members of the California Medical Association who have come into California later than twenty-five years ago scan what was then said, to be able thus to better appreciate how the predictions of the then editor have come true in the wonderful new San Francisco which today exists. For such new members are here printed also a few lines from the Los Angeles *Herald,* in a Pacific Coast News Service dispatch of April 18, 1931, which was the date of the twenty-fifth anniversary of the San Francisco earthquake and fire.

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* Editorials on subjects of scientific and clinical interest, contributed by members of the California Medical Association, are printed in the Medicine Today column which follows.

The dispatch is as follows:

> "San Francisco, April 18.—San Francisco today celebrated the twenty-fifth anniversary of its great fire.
>
> "On a morning just twenty-five years ago an earthquake shook the city, fires followed in quick succession and much of the city was destroyed.
>
> "Out of the ashes of 2500 acres of burned homes, factories, stores and office buildings; out of the chaos of broken water mains, twisted pavements and cracked earth has risen the city which the world knows today.
>
> "The refugees who fled from the fire soon returned. Others followed them, with the result that the city which in 1906 had a population of 387,260 has grown to 634,394.
>
> "From that ashy 2500 acres, whose assessed valuation was approximately $300,000,000, the city has expanded to 42 square miles, with a total assessed valuation of $1,303,025,065.
>
> "Not content to rest on its laurels, the city has other huge tasks planned, some of which are already under way. Others are assured." . . .

NARCOTIC PRESCRIPTIONS—CALIFORNIA NARCOTIC LAWS

The California Medical Association Council's Letter of Caution of March, 1930.—Under the above caption, in this column of the March 1930 issue, page 192, attention was called to a letter on the California narcotic laws, which letter was gotten out by the Council and mailed to every member of the California Medical Association.

Only recently a communication was received by the Council from a member of one of the component county societies, in which the Council was somewhat taken to task for presumably having been frightened, when it gave expression in its letter on the desirability of all members of the California Medical Association protecting themselves from arrest by narcotic inspectors through carefully observing the technical provisions of the California statutes concerning narcotic prescriptions.

* * *

A Recent Opinion on the Narcotic Law by Attorney General Webb of California.—That the action last year taken by the Council in sending out the letter about narcotics was warranted may be gathered from the item quoted below, which has just been received by the editor from Dr. C. B. Pinkham, secretary of the Board of Medical Examiners of the State of California. The item is printed at this time because it will serve as an additional reminder and caution for members of the California Medical Association to be punctilious when they write prescriptions for narcotics.

The item follows:

> "It is reported that on March 3, 1931, Attorney General Webb rendered Opinion No. 7425 in interpretation of Section 1 of 'An Act to regulate the sale, possession, distribution and use of habit forming, narcotic and other dangerous drugs and substances and providing penalties for the violation thereof,' that
>
> "'The Act in question requires that the prescribing physician in his own handwriting affix the date of the prescription, designate the drug and the manner of its use, the name of the person for whom the same is prescribed and his address . . . and that the prescription shall be signed and dated as of the date on which said prescription is written by the physician.'
>
> "This opinion is of sufficient importance to be presented to the medical profession for their guidance."

LOS ANGELES COUNTY HOSPITAL—CHARGES AGAINST ITS SUPERINTENDENT

California County Hospital Problems.—As the years come and go, the county hospital situations in California take on increasing complexities.

In the February 1931 California and Western Medicine, page 120, the attempt of the chairman of the Board of Supervisors of Santa Barbara County to inaugurate what might be considered a form of state medicine at the Santa Maria branch of the Santa Barbara Hospital was discussed.

Again in the March 1931 number of California and Western Medicine, page 219, was given a considerable review of some opinions of the basic California laws having to do with the organization and maintenance of county hospitals, and the economic status of citizens who were eligible to admittance in such institutions. These excerpts were taken by the editor from a file which was loaned to him by Dr. Neal N. Wood, superintendent of the Los Angeles County General Hospital.

* * *

Supervisor Shaw Files Charges Against Superintendent Wood.—Comes now a new sensation in California county hospital affairs, the same being an effort to bring about the dismissal of Dr. Neal N. Wood of the Los Angeles County General Hospital. At the time this is written charges have been filed, but the hearing of Doctor Wood has not yet taken place. The result of that hearing will probably be known to members of the California Medical Association before this May issue of California and Western Medicine is placed in the mails.

Pending such a hearing, it is better that the subject of the charges and the possible reasons therefore, as filed by Supervisor Frank Shaw, be not discussed in detail in this column. Nevertheless, inasmuch as the Los Angeles County Medical Association has been drawn into the controversy, and through its trustees and councilors has gone on record on certain phases of the matters in dispute, it is very proper to call attention thereto in this official journal of the California Medical Association. It must be agreed that to have summarily dismissed a hospital executive, after years of service, on charges from two lay investigators, without proper opportunity for defense, and with little or no recognition of the one group of citizens, namely, the medical profession—some of whose members give gratuitous services to the county hospital, that represent a money value of several hundred thousand dollars yearly—would not have been an action fair either to such an hospital executive or courteous to the medical profession.

While charges have been filed against Superintendent Wood by Supervisor Shaw, there is pending a report on the county hospital still to be made by the Los Angeles County Efficiency Bureau. In addition, a new grand jury has been impaneled to presumably make an independent investigation of the entire county hospital, both of the old present unit, and the twelve-million-dollar unit for acute diseases which is now in course of erection. Because of the importance and for the convenience of the readers of CALIFORNIA AND WESTERN MEDICINE who should be interested in the issues at stake, several newspaper quotations are here given so that members of the California Medical Association may better understand what has taken place to date and what actions are pending in the near future. In a subsequent number of CALIFORNIA AND WESTERN MEDICINE it may be possible to make further comment on these public health matters.

* * *

The Versions of the Newspapers.—From the Los Angeles *Times* of April 14 the following is excerpted:

"Dr. Neal N. Wood will be given an opportunity to answer charges that he is incompetent as superintendent of the General Hospital at a public hearing to be held before the Board of Supervisors, beginning at 10 a. m. Thursday, the 23rd inst., and lasting two days. Formal charges against the doctor must be on file by next Friday.

"The hearing for Dr. Wood, who has been a storm center ever since an attempt was made to discharge him one week ago, will assume the form of a court with the Supervisors in rôles of both judge and jury. At the end of the trial the board can vote to dismiss the superintendent or retain him. A week ago the body voted 3 to 2 to retain him. . . . .

"One week ago Supervisor Shaw, following a report from investigators that wholesale stealing had been going on at the hospital for years, demanded the resignation of Dr. Wood on grounds of inefficient management. The board, after heated discussion, voted to retain the doctor. Supervisors Quinn and Shaw voted to oust him and Supervisors Wright, Thatcher and Mahaffey voted to retain him.

"As a result of this vote it will be necessary for Supervisor Shaw and others seeking the discharge of Dr. Wood again to file formal charges before the board. This will be done before Friday, Supervisor Shaw said yesterday.

"All members of the board have repeatedly expressed their confidence in the honesty of Dr. Wood. Also none up to the present has cast any aspersions on Dr. Wood's professional ability or his conduct relative to the medical end of the hospital. Shaw and those opposing Dr. Wood, however, believe that he not only should be a capable medical head of the institution, but also sufficiently efficient in the business management to prevent stealing and waste of supplies. They contend that he is not merely a medical superintendent, but a general superintendent. Further, that he is entirely responsible in picking an efficient business manager."

From the Los Angeles *Examiner* of April 18 the following quotations are made:

"Formal charges to be faced by Dr. Neal N. Wood, superintendent of the General Hospital, at a public hearing next Thursday were filed yesterday with the Board of Supervisors by Supervisor Frank L. Shaw in affidavit form.

"The document, bristling with serious accusations, reached the Supervisors a short time after they had received a communication from the Los Angeles County Medical Association in which the retention of Doctor Wood was urged.

"Among the chief charges hurled at Doctor Wood by Shaw were:

"That he lacks the necessary business and executive ability necessary for the position of superintendent and that this lack has resulted in the loss 'of thousands upon thousands of dollars.'

"That for many years food supplies have been stolen from the hospital almost openly by employees and that a number of these employees actually were engaged in catering to lodges and societies and 'using therefor food supplies almost openly taken from the institution.' Similarly, he added, surgical supplies, hospital equipment, linen and tableware have likewise been stolen.

"That various employees of the hospital, because of a lack of system, absented themselves and actually engaged in work for other firms and individuals while drawing pay from the county.

"That insanitary conditions have been permitted to prevail throughout the institution, that personal effects of deceased and discharged patients have been appropriated by the hospital staff, and finally that 'the incompetence of Doctor Wood is such that the cost per patient per day is nearly double the cost in similar institutions throughout the country.'

"In defense of Doctor Wood the Los Angeles County Medical Association declared that:

"'Issues of considerable more importance than the matter of petty pilfering by minor employees of the Los Angeles County General Hospital are at stake in the proposed dismissal of Doctor Wood,' adding that 'there is urgent need for clear thinking and unbiased judgment concerning the course of action to be taken.'

"The communication declared a survey by members of the staff at the hospital has placed the loss by loot at $10,000, instead of $500,000, as estimated by Deputy Sheriff Arthur L. Fitzgerald, and Jim Bolger, field secretary to Shaw, who conducted Shaw's investigation."

* * *

The Action of the Los Angeles County Medical Association.—The hearing referred to in the above excerpts, if it continues for any length of time, may see a considerable number of medical men called to the stand. The medical profession, whose members are the one group of citizens who give gratuitous service of very considerable money value to the county of Los Angeles, has very special reasons to be actively interested in these proceedings and to insist on fair play and proper courtesy. To be content with less would be an indication of lack of self-respect. When self-respect does not exist, it is hardly possible to expect others to give it.

The members of the medical profession have no desire to become involved in political controversies of a civil nature, but because of their generous services they do have rights in county hospital affairs and do expect to be heard and recognized when the standards of their profession and the public hospitals in which they give massive gratuitous aid come up for discussion. In this instance it has been gratifying to note that the Los Angeles County Medical Association took a firm stand on the basic principles and facts which seem to be involved in the county hospital situation of Los Angeles County.

PUBLIC TELEPHONE DIRECTORIES—LISTINGS TO AID THE PUBLIC IN KNOWING WHO ARE WELL-TRAINED PHYSICIANS

San Francisco County Society Inaugurates a Telephone Listing.—The San Francisco County Medical Association in its *Bulletin* of April 1931 outlines a plan for a separate listing in the public telephone directory, by means of which it would be possible for a citizen who was seeking the services of a well-trained physician or surgeon to be able to find one such by consulting such a listing. The plan recommended by the committee, consisting of Drs. R. Knight Smith, Harold Brunn and Alfred C. Reed, commends itself to us as having some very favorable and practical features. It would be of greatest value, however, if practically all members of the county society coöperated in trying out the plan.

* * *

Such a Listing Plan Is a Beginning.—The plan may not be ideal in some respects, but it is at least a beginning in actual doing, and that is worth more than no end of theorizing and abstract discussion.

Years ago the editor was responsible for bringing the telephone exchange of the Los Angeles County Medical Association into existence in the belief that such a telephone exchange could be of real service to the community and to the profession. Whether or not the end results of such a telephone exchange would be greater, through the supplementary inauguration of such a special listing in the classified telephone directory—which listing or roster would gradually become known to the public as a list containing the names of only well-trained non-cultist physicians and surgeons—may be a somewhat difficult question to answer until the plan has been tried out. But on the point that there is great need of a listing of well-trained, non-sectarian physicians and surgeons to which the public could have easy and convenient access, there can be no doubt.

The plan proposed by the San Francisco County Society would seem to have possibilities for supplying a real need and would seem therefore to be worthy of consideration and discussion by other component county societies of the California Medical Association.

Details Concerning the Plan.—The following excerpt from the *Bulletin* gives further information concerning the plan:

> "As classified listing stands at present, every physician listed in the main directory is listed under 'Physicians and Surgeons M. D.' in the classified section, and if he has an emergency call number, office hours or other desired information occupying another line in the list, he is charged fifty cents per month for this extra line.
>
> "After study of the matter and conferences with the representatives of the company, the committee recommended the acceptance of the following arrangement with the Pacific Telephone and Telegraph Company. In the section 'Physicians and Surgeons M. D.' and under the heading 'Active Members of the San Francisco County Medical Society' and a small block showing the seal of the society and a few explanatory words, will appear the names, in alphabetical order, of all members, in good standing at the time of closing the press on the directory, who have agreed to pay the company fifty cents per month for the extra listing. The society will pay the monthly charge for the heading.
>
> "No name will be placed in this listing unless it has been submitted to the company by the society, and when a name has been so submitted the company will communicate with the member, asking if he cares for this special listing.
>
> "The board of directors approved the arrangement and an agreement has been entered into with the company. It will be furnished a list of the members in good standing and will approach them individually to find out whether they wish to sign up for this listing.
>
> "A final word of explanation. Each member's listing in the classified section of the directory will appear in future books as it does now (unless he changes it) whether he takes the new listing or not. If he accepts the new listing, his name will also appear under the heading, 'Active Members of the San Francisco County Medical Society,' as described above, and he will arrange with the representative of the telephone company for the listing.
>
> "This listing is not obligatory. Each member is perfectly free to make his own choice."

JAMAICA GINGER LEGISLATION—A NEW CALIFORNIA LAW

Twenty Thousand Cases of "Jake Paralysis" in the Last Year.—In the November 1930 number of California and Western Medicine, page 823, mention was made of the announcement by the United States Public Health Service that the cause of the "Jamaica Ginger Paralysis," upon investigation has been found to be due to an adulterant not infrequently used in the manufacture of varnishes, and known as triorthocresyl phosphate. The estimated total of such "Jake Paralysis" cases which occurred in the United States during the last year was estimated to have exceeded the number of twenty thousand.

* * *

The Recent Experience in Los Angeles.—In California more recent expression of this type of poisoning took place in Los Angeles County. The Los Angeles County Health Department took steps to bring urgency legislation into operation that would deter or would put a stop on the importation from other states of such adulterated

Jamaica ginger, and on its distribution. To that end Senate Bill 930 was introduced by Senator McKinley, being

> "An act to add a new section to the Penal Code to be numbered section 347b, relating to the sale and use of fluid extract of Jamaica ginger or any preparation or compound containing triorthocresyl phosphate, and declaring the urgency thereof."

This urgency measure was passed by the Legislature and was placed before Governor James J. Rolph, Jr., who signed it, so that it became a law on April 17.

* * *

Inadequacy of Federal Pure Drug Laws and of Interstate Shipment Regulations.—It is to be regretted that the federal pure food and drug laws are not sufficiently drastic to have permitted the United States Public Health Service, which made its original announcement last October, to have gone after the manufacturers of this spurious Jamaica ginger and to have penalized both the makers and the wholesale distributors thereof in different states of the Union. Had that been done the two hundred Los Angeles County cases of paralysis and the three deaths from this poison might have been avoided.

* * *

American Medical Association Council of Pharmacy Might Recommend Additional Federal Legislation.—This and similar adulterants might well receive the consideration of the American Medical Association Council on Pharmacy and the American Medical Association Bureau of Legal Medicine. Pressure on Congress, with such an example as "Jake paralysis" poisonings as a concrete talking point, would be far more apt to result in strengthening the federal pure food and drug laws than would be apt to occur when only cold-blooded and abstract pleas for such additional laws were made. In these days congressmen want an alert public to be in back of them when they sponsor such legislation. Our federal pure food and drug laws need revision. Why not whip such proposed amendments into form before the next Congress convenes?

THE CALIFORNIA LEGISLATURE—PROGRESS REPORT

California Legislature Will Adjourn May 8.—At the California Medical Association annual session in San Francisco on April 27-30 reports will be given by the Committee on Public Policy and Legislation on the status of public health and medical measures now pending before the California Legislature. The legislature is in session as this copy goes forward to the printer, but the adjournment date has been set for May 8, which is about the time this May number of California and Western Medicine will be placed in the mails.

The delegates present at the San Francisco meeting will have heard the reports of California Medical Association officers and committees, and will carry back to their county societies a summary of what has been done in legislative matters. But what may happen at Sacramento between the close of the California Medical Association annual session and the day of adjournment of the biennial California Legislature no one is in position at this time to foretell. However, since a goodly number of members of the California Medical Association are interested in these legislative matters which are of such great importance to the further development of organized medicine in California, additional comments on some of the proposed laws in which the medical profession is directly or indirectly involved should be in order.

* * *

The Fellom Bill (S. 175) Which Would Give Corporations the Right to Practice Medicine for Profit.—In last month's issue of this journal, Senate Bill 175 was discussed. It was stated that the measure had gotten out of committee through a surprise maneuver. Fortunately there were enough senatorial friends of the medical profession to prevent immediate action, and it was sent back to committee for a further hearing. At the said hearing, a week or so later, at which medical representatives from different parts of California were present, the bill was tabled by the committee. The next day, however, through the application of the rule of senatorial courtesy, the bill was again brought out of committee to the Senate floor. At the time this account is being written it has gotten as far up as the third reading file of the Senate.

As has been previously emphasized, this bill (S. 175—Fellom) is the measure which would give corporations the right to practice medicine for profit. If it should go on to passage and signature by Governor Rolph, this measure would go far in debasing medical and public health standards. The bill is being carefully watched by the California Medical Association Committee on Public Policy and Legislation and will be fought at every turn by friends of the medical profession.

* * *

Thanks Should Be Given to Legislators Who Aid.—Those legislators, by the way, who stand firm in defense of public health standards which the medical profession holds dear should not be forgotten when they return to their home communities, but should be the recipients of proper thanks from their respective county medical societies. When administrative officers and legislators learn that physicians are intelligent observers of proceedings at Sacramento and that they have memories, both for those who support and for those who do not support public health standards, it will be found that some of our legislative problems will become much simplified. So let those Senators and Assemblymen who have stood firm for proper standards know you are and will be appreciative in word and deed.

Another Cult and Its Proposed Licensing Board.—To show what transitions can take place through parliamentary amendments in the legislature, Assembly Bill No. 1234 (Gilmore) may be here cited. That measure, as originally presented, presumably was intended to deal with certain criminal jurisdictions of Justice Courts, etc., but at the time these words are being written the measure has undergone such a transformation and metamorphosis that it now would legalize a California Board of Masseurology!

What was said on page 284 in the April CALIFORNIA AND WESTERN MEDICINE concerning a proposed Board of Naturopathic Examiners (Assembly Bill 1281) would apply also to this "Board of Masseurology" act which would permit its licentiates to do physiotherapy, physical culture, prescribe drugs and do all "except major surgery." The strange part of such cultist bills is that such measures often receive staunch support from their legislator sponsors so that much time and effort must be used to kill the measures.

* * *

How a "Qualifying Certificate" (Basic Science) Law Might Help.—Such attempts to create new cultist boards emphasize the value of a "Qualifying Certificate" (so-called Basic Science) Board, whose fundamental educational qualifications would be made applicable to all schools of the healing art. With such a "Qualifying Certificate" law, passed by initiative act, such attempts by new cultist groups as those just mentioned would probably die "a-borning." It is the only effective plan which occurs to the editor by means of which these biennial struggles with proposed laws which would create new cultist boards may be kept down to a minimum.

* * *

The M. D. Director of Institutions Bill.—Let us take another measure (Assembly Bill 1110—Sewell), sponsored originally in part by the representatives of the California Medical Association because it provided that the Director of the California Department of Institutions (see article by Doctor Hunter in March CALIFORNIA AND WESTERN MEDICINE, page 164) should be a physician. This unfortunate bill in the last several weeks has had so many amendments tacked on by legislators that it no longer has anything to do with the primary purpose of a director physician, but deals now largely with repairs in the State Capitol Building at Sacramento!

* * *

Another Fellom Bill.—Another new measure that has come to the front during the last several days (as these lines are written) is one of Senator Fellom's skeleton bills, whereby all investigators and enforcement officers of all examining boards (of which the Board of Medical Examiners of the State of California is one) would be removed from the immediate jurisdiction of the Board of Medical Examiners. And so it goes.

The State Medical Libraries Bill.—Assembly Bill 477 (Neilson) for state medical libraries was commented upon in the April CALIFORNIA AND WESTERN MEDICINE, page 284. The bill as there outlined should have an excellent chance to go on to passage. The only change made in it has been to reduce the amount of funds to be allocated from the contingent fund of the Board of Medical Examiners. Through conference and agreement with Colonel Carlos Huntington, director of the Department of Professional and Vocational Standards, it was decided to leave about one hundred and thirty thousand dollars in the contingent or reserve fund of the Board of Medical Examiners, thus reducing the sum to be allocated to the University of California for the major state medical libraries at San Francisco and Los Angeles from about seventy thousand dollars to about fifty thousand dollars. If this measure goes on to passage and signature by Governor Rolph it will be possible for every physician in California to have come to him the latest and other medical literature in which he may be interested. That is a something devoutly to be wished for.

* * *

County Societies Should Know Somewhat of Candidates.—Several other proposed bills might be discussed at this time, but space indicates that their consideration must lie over for later comment. The San Francisco annual session report of the California Medical Association Committee on Public Policy and Legislation, of which Dr. Junius B. Harris is chairman, will be printed in the June number of CALIFORNIA AND WESTERN MEDICINE and should be read by all members of the California Medical Association.

The experience of the California Medical Association officers and the Committee on Public Policy and Legislation this year has not been radically different from that which has been had in previous legislative sessions. And there is nothing to indicate that the profession can be less alert with future legislatures.

It would aid greatly, however, if physicians in the future would take a more or less active interest in legitimate political matters of a civic nature. The Public Policy and Legislation Committees of county societies should investigate and then inform their fellow members concerning the backgrounds and character of candidates for city councils, county boards of supervisors and the state legislature. It is such public officials who make our city, county and state laws. With such knowledge, support could be given to candidates who have sane and broad outlooks on public health and medical measures. Through such officials, the best interests of the State would be best conserved. But if we want to do these things, it is necessary for physicians to show proper individual and collective interest in these matters. Then almost any legitimate aspiration will be within the realm of possible achievement.

MEDICINE TODAY

This department of California and Western Medicine presents editorial comment by contributing members on items of medical progress, science and practice, and on topics from recent medical books or journals. An invitation is extended to every member of the California, Nevada and Utah Medical Associations to submit brief editorial discussions suitable for publication in this department. No presentation should be over five hundred words in length.

"Atopy," "Allergy" and "Anaphylaxis."—To explain different symptomatologies and laboratory findings, various classifications of human hypersusceptibility have been suggested, implying different etiologies and different logical therapies. One classification, for example, assumes that "true anaphylaxis" differs from certain "hereditary allergies" in that "true anaphylaxis" is always serologically transferable.[1] That this is a purely arbitrary criterion having no relationship to specific etiology or logical therapy is implied in Julianelle's [2] currently reported reproduction at will of either the transferable or non-transferable type of local anaphylaxis by varying the site of injection of the same sensitizin. In his hands intravenous injection of heat-killed pneumococci into normal rabbits, for example, leads to the development of a specific cutaneous hypersusceptibility which is serologically transferable. But the same vaccine injected intracutaneously gives in addition to this generalized allergy a specific ocular hypersensitiveness not transferable. This ocular hypersensitiveness might be classed by certain clinicians as an "hereditary allergy."

W. H. Manwaring, Stanford University.

Public Health Aspects—Epidemic Influenza. Influenza represents to the health official just an ordinary loose medical term. In other words, the clinical diagnosis and the subsequent reports when reported may be summed up usually as a senseless definition of a pathologic X. In unusual times, however, or in times of increased mortality from respiratory infections beyond seasonal expectancies or at the time of the prevalence of great pandemics, influenza as a term becomes cloaked with immense importance from a clinical, pathologic and bacteriologic standpoint, and infinitely significant from a public health standpoint. The disease occurs in serious and furious epidemics and in great pandemics as an acute, highly communicable, febrile disease. As such it represents a high mortality rate on the whole. One should be very familiar with the 1918 outbreak in which it is estimated that over 200,000,000 cases and 10,000,000 deaths occurred in a period of twelve months, throughout the world. In the United States alone, there occurred 20,000,000 cases and 450,000 deaths. Influenza pandemics were not unknown in ancient medical history, for Willis and Sydenham described the first outbreak in 1510. In fact, eighty outbreaks have been recorded since 1173. Such pandemics create public health situations that even today rapidly become chaotic as to acceptable control measures or investigative procedures. Furthermore, the rapidity of spread and the rapidity of subsidence and the undoubted occurrence of interepidemic types makes the investigative problem a complicated, necessarily hurried and expensive one. Moreover, what relationship exists between pandemic and interepidemic influenza is most obscure. This obscurity extends likewise to the relationship of type causative strains of bacteria or viruses at both periods. Suffice to say that there is no unanimity of opinion and no light sufficiently clear, no matter how extensive or timely the investigation, or careful the investigator, has been thrown upon the origin of the virus or the possible modification or attenuation. It is an attractive hypothesis to assume, in order of importance, that the virus is widely distributed; that individual, and even racial susceptibility, plays an important rôle; and that the virulence of pandemic strains subside for years or become innocuous. Microbic or viric dissociation from a virulent to a nonvirulent status has been suggested as a possible explanation to certain vagaries in the epidemiology of communicable diseases, particularly that of epidemic cerebrospinal fever, but at present this is not quite susceptible of proof. The facility and frequence of the occurrence of influenza is, however, very manifest, as is its dual epidemiologic rôle of pandemic and interepidemics.

Since 1918 the public health official has only been concerned with interepidemic influenza. Apparently, this type of the disease may be considered a respiratory infection rapidly diffusing through and involving whole communities or occurring in sharply defined outbreaks in schools, colleges, institutions, etc.

Clinical identification of influenza is obviously difficult but not unattainable. Conversely, microbic or viric identification is at present impossible. It is, therefore, on certain epidemiologic characteristics that identification can be based with any degree of certainty. The epidemiologic features en masse may be briefly stated to be its close relation of the curve of influenza to that of pneumonia; its high morbidity; its rapid dissemination over wide areas; its generally characteristic racial and age incidence and its dislocation of ordinary age distribution mortality of respiratory diseases with increase in young adults; its great explosiveness (the peak of the curve being reached in two or three weeks or an incidence curve of not more than four to eight weeks); its high dispersiveness (many widely scattered cities reaching the peak of the curve about the same time, for no disease spreads so rapidly in so short a time) and its recurrences.

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[1] Karsner, H. T. Anaphylaxis and Anaphylactoid Reactions. The Newer Knowledge of Bacteriology and Immunology, Chap. 83, p. 967, 1928. University of Chicago Press.

[2] Julianelle, L. A. Reaction of Rabbits to Intracutaneous Injections of Pneumococci and Their Products, J. Exper. Med., 51, 643, April 1930.

The lack of progress in control measures, the lack of knowledge as to methods of spread and the lack of information as to a microbic or viric factor, need not serve as a deterrent of discussion. In 1918, when influenza swept the world in a vast pandemic, 230,845 cases were reported in California. The years 1920, 1922, and 1928, could be considered interepidemic, for in California there was reported, approximately, an average number for each year and over 160,000 cases for these periods. Compare this with such nonepidemic years as 1921, 1924 and 1930, when approximately 1800 cases were reported on an average and over 5443 cases for these periods. Naturally predictions for the future trend of influenza for California or the world is fraught with statistical difficulties, but the health official may well approach the problem and carefully watch the statistical records in order to give warning of any trend to epidemic proportions. Definite conclusions, however, appear to be unwarranted. There seems to be no doubt that a wave of respiratory diseases, many cases of which have been rightfully or wrongfully diagnosed as influenza, has recently swept over parts of the eastern section of the United States. New York City reported sixty-eight cases for the week ending January 3, 1931, and 1140 for the week ending January 24. New Jersey, Maryland, North Carolina, and South Carolina reported similar increases. California only reported 159 cases for the first two weeks in January. During the week ending January 31, 1931, approximately 13,000 cases of influenza were reported in the United States, two-thirds of which were in the South Atlantic States, and 60 per cent in Maryland, North Carolina, and South Carolina. In Europe, Poland reported increased prevalence in November 1930, and Germany and France in December 1930. Likewise, did Jugo-Slavia, Denmark, Switzerland, and Spain. The disease was evidently mild, and clinical benignity the rule. England and Wales reported that from 107 towns in December the general mortality was 12.8 per 1000, which increased to 17.2 per 1000 in the week ending January 17, 1931.

Having so lightly disposed of 1930 and 1931, let us consider 1928 and 1929. Any doubt as to the reality of an epidemic of influenza can be dispelled by a survey of the mortality statistics. Up to January 5, 1929, 26,000 deaths occurred in the United States which were attributed to this epidemic, and this is a conservative estimate. This increased mortality was definitely on the decline in January 1929, especially in the Pacific and Mountain States. This epidemic, as well as that of 1926, apparently started on the Pacific Coast.

The origin of epidemics of influenza is particularly shrouded in obscurity—indeed, if a single starting point does exist. One need only recall the history of the 1918 outbreak to bring to mind that there was reported present in the army camps of Great Britain and Continental Europe in 1916-1917, a purulent type of bronchitis with the so-called heliotrophic hue or cyanosis. The disease was then not regarded as contagious, but was, perhaps, the precursor of the great pandemnic of our time. In fact, in the spring and summer of 1918 western Europe presented the occurrence of a disease which was probably the immediate forerunner of the pandemic and now called the first epidemic wave. Moreover, the observations, at autopsy, of LeCount, in Chicago in April 1918, and the explosive type of outbreaks at Camp Funston and Camp Oglethorpe in March, and particularly the reports of Kerr and his associates at Camp Lewis in April, indicated the probable presence of epidemic influenza in both the United States and Europe in early spring, at least in April. It appears, therefore, plain that in wide areas of the world, in 1918, outbreaks were occurring and original foci or transference from one country to another or one continent to another cannot be traced with any degree of plausibility. Two epidemiologic facts stand out prominently. That the first wave was relatively trivial and that the second wave was more explosive, more dangerous, more dispersive, more incapacitative, more depressive of mind, and reaching the crest of the wave in October and November. The epidemics which show all such features, especially the world-wide prevalence, are somewhat rare. Minor epidemics or recurrences at frequent intervals are of practically the same epidemiologic characteristics, but presenting less severe clinical types and, therefore, less effect on the general mortality. It would appear that since 1918 distinct outbreaks have occurred, particularly in 1920, 1923, 1926, and 1929, with certain other minor affairs, that are true epidemic influenza of modified virulence and intensity. The assurance of increased mortality from respiratory disease over the expectancy for these periods which, incidentally or otherwise, have occurred in triplet waves with the decided statistical mortality superiority for 1920 and 1929 may be sufficient ground for further assuming that a maximum respiratory death rate may appear in 1932. The tendency of epidemic diseases, however, is to fluctuate unseemingly, but usually maintaining a fixed seasonal basis. Epidemic influenza, however, stands alone, as it has spread at irregular intervals over wide areas, affecting large proportions of the population and presumably disregarding climatic and seasonal conditions. The accumulation of population susceptibles is a doubtful factor since, ordinarily, individual immunity is considerably transient.

It is not wise to assume the mantle of pessimism about any epidemic disease, but of all such diseases influenza has its unique universality; its rapidity of incidence; its extraordinary extent over land and sea; its occurrence in opposite seasons no matter the weather; its effect on all classes of people; its varying clinical intensity; its apparent extension to animals, as for instance swine, and its recurrences at more or less stated intervals. Notwithstanding all of these, there should be continued, unremittingly, the collection and collation of data, especially clinical, of any visitation of the disease in order to deduce certain principles respecting the mode of propagation and the exciting factor and the measures to be adopted for control. To scientific medicine and public health this disease offers a most intriguing mystery to be solved.

J. C. Geiger, San Francisco.

Allergic Manifestations in Superficial Fungus Infections.—The rapid spread of epidermophytosis during the past few years makes this disease a problem of primary importance not only to dermatologists, but to the medical profession as a whole, as well as to public health officers, school nurses, and directors of physical education.

We have become fairly familiar with the clinical picture of what the advertising artists are pleased to call "athlete's foot": the white, sodden macerated condition between the toes and in more active cases, areas of scaling and vesiculation on the soles and about the toes. Material removed from these lesions, either scales or the excised tops of vesicles, when examined microscopically after preparing with 40 per cent potassium hydroxid, usually shows large numbers of fungus mycelia, most commonly the *Epidermophyton Kaufman-Wolf*, although other organisms have been reported. The fungi can also be easily cultivated on Sabouraud's medium.

Frequently similar lesions occur on the hands either in the form of areas of scaling or of large, grouped vesicles. The lesions on the hands usually appear later than those of the feet and are practically always sterile on culture and negative for fungi on microscopic examination. A number of investigators have verified this observation, and Peck [1] has recently summarized and amplified this work in a very admirable contribution in which he shows conclusively that such lesions on the hands represent an allergic reaction to the infection on the feet, as verified by the presence of a positive intracutaneous reaction to trichophytin, an extract made from a culture of the fungus. He adds twenty-three new cases to a previous series of twenty-four reported by Jadassohn and himself, making a total of forty-seven patients presenting epidermophytosis of the feet, all with positive microscopic and cultural findings and positive trichophytin intracutaneous tests, who at the same time had lesions on the hands of an eczematoid or dyshidrotic nature which, with one exception, were negative microscopically and culturally. The lesions are designated as epidermophytids. It is thought that they are due to the hematogenous transportation of fungi or their toxins from the original focus on the feet, and are due to the development of an allergic state.

Peck reproduced the disease experimentally in a volunteer by inoculating a culture of *Epidermophyton Kaufman-Wolf* between the toes. Preceding the inoculation the trichophytin reaction was negative. Three days after inoculation without trauma, infection had taken place, as revealed by the clinical appearance and by a positive microscopic examination. The trichophytin reaction became positive thirteen days after inoculation, and epidermophytids began to develop on the hands about a week later. The lesions on the hands were sterile.

One very practical point is brought out by these observations, namely, that patients presenting eczematoid eruptions of the hands should be examined for fungus infections of the feet. Many of Peck's patients were unaware of foot infections, yet treatment directed solely toward eradicating the infection of the feet caused the lesions of the hands to disappear. Since it is also known, however, that primary fungus infections do occasionally occur on the hands, it is obviously desirable that suspected lesions should be examined microscopically before strong antiparasitic remedies are applied.

It should be an occasion for rejoicing that at least one group of stubborn and recurrent eczemas of the hands has been transferred from the incurable to the curable column.

Samuel Ayres, Jr., Los Angeles.
Nelson P. Anderson, Los Angeles.

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[1] Samuel M. Peck, Epidermophytosis of the Feet and Epidermophytids of the Hands—Clinical, Histologic, Cultural, and Experimental Studies. Arch. Derm. and Syphil., 22:40, July 1930.

Deaths From Acute Poisoning.—An analysis of 440 deaths from acute poisoning among Metropolitan Industrial policyholders discloses that more than one-quarter (115) resulted either from the mistaking of poisonous drugs for medicines or from overdoses of medicines containing poisons. Among the actual poisons which caused these 115 deaths, bichlorid of mercury leads the list with 22; overdoses of either allonal, luminal, or veronal proved fatal in 18 instances; arsenic caused twelve deaths; lysol, 11; and carbolic acid, 6. In twenty-eight cases, various other poisons were named and in six the name of the poisonous substance was not specified.

Ingestion of wood or denatured alcohol, taken either as a substitute for alcoholic beverages or mistaken for alcoholic beverages, caused 118 deaths, or more than one-quarter of the cases studied.

Young children are more frequent victims of accidental poisoning than are persons at any other age. There were, for example, 104 deaths of young children in this group of cases, in most of which the death resulted from the carelessness of parents in leaving pills or other poisonous agents within reach. Strychnin takes a heavier toll of child life than does any other poison, with kerosene, lye, oil of wintergreen, arsenic, and phosphorous figuring more or less prominently. Based on the results of this study, we would stress the dangers which arise from leaving poisons within the reach of young children. While most of these deaths were probably due to sheer carelessness on the part of parents, it is possible that, in many cases, the parents did not know that they were actually leaving deadly poisons where children would have access to them. More conspicuous labels on containers would thus have averted some of these deaths.—*Statistical Bulletin, Metropolitan Life Insurance Company*, February 1931.

STATE MEDICAL ASSOCIATIONS

CALIFORNIA MEDICAL ASSOCIATION*

JUNIUS B. HARRIS .... President
JOSEPH M. KING .... President-Elect
EMMA W. POPE .... Secretary

OFFICIAL NOTICE

San Francisco Annual Session of the California Medical Association.—Newly Elected Officers.—As this number of California and Western Medicine is going to press, the concluding meetings of the sixtieth annual session of the California Medical Association are being held. This year's San Francisco annual session of the California Medical Association will go down into the history of the organization as one of its most successful yearly reunions. The committees in charge performed their duties in admirable and successful manner.

The officers who were elected by the House of Delegates to fill the different vacancies are as follows:

President-elect, Joseph M. King, Los Angeles (1932).

Speaker of the House, Edward M. Pallette, Los Angeles (1932).

Councilors:
- Third District—H. J. Ullmann, Santa Barbara (1934).
- Sixth District—Karl Schaupp, San Francisco (1934).
- Ninth District—Henry S. Rogers, Petaluma (1934).

Councilor-at-Large:
- George G. Reinle, Oakland (1934).

Delegates to the American Medical Association for the sessions of 1932 and 1933:

Delegates	Alternates
Dudley Smith, Oakland.	LeRoy Brooks, San Francisco.
F. C. E. Mattison, Pasadena.	Fred B. Clarke, Long Beach.
Albert Soiland, Los Angeles.	William H. Gilbert, Los Angeles.

Alternate to Doctor Irving Ingber for the sessions of 1931 and 1932, Doctor Charles A. Dukes.

Member of the Program Committee—Lemuel P. Adams, Oakland (1934).

COMPONENT COUNTY SOCIETIES

NAPA COUNTY

The regular monthly meeting of the Napa County Medical Society was held Wednesday, April 1, at the St. Helena Sanitarium. The society and auxiliary were welcomed by Doctor Vollmer, superintendent of the sanitarium, and a delightful dinner was enjoyed. This was followed by a short recess to permit the ladies of the auxiliary to hold their meeting.

The meeting was called to order by Doctor Northrop, president, and routine business transacted.

The speaker of the evening, L. L. Stanley, M. D., resident physician of San Quentin, was then introduced. His subject was divided into three phases: A study of twenty-five convicts, illustrated with lantern slides; effect of feeding testicular extract on goldfish; and effect of coffee on sleep.

Members present were: E. F. Anderson, W. L. Blodgett, A. E. Chappell, C. A. Gregory, C. E. Nelson, R. S. Northrop, J. Robertson, H. W. Vollmer, L. Welti, D. B. Williams, and George J. Wood.

Members of the Woman's Auxiliary present were: Mrs. C. H. Bulson and Mrs. R. S. Northrop.

Drs. Ruth Miller and Ida Nelson of Napa Sanitarium and J. M. Scanland and T. H. Stice of Imola were present as guests.

C. A. Johnson, *Secretary.*

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ORANGE COUNTY

The regular monthly meeting of the Orange County Medical Association was held on Tuesday, April 7, at 8 p. m. in the staff room of the County Hospital. President E. J. Steen called the meeting to order for the transaction of business and the minutes of the last meeting approved.

Resolutions were presented and ordered sent to Dr. E. D. Kilbourne, who leaves to take up the practice of medicine in his former home at Honolulu, expressing the good wishes of his colleagues with whom he has been associated in Orange County during recent years.

The question as to a patron membership to be taken out in the Barlow Medical Library for another year was discussed. It was found that many of the members have made use of this library during the past year and all expressed their approval. By vote the secretary was ordered to draw a check for the sum of $25 for another year's patron membership in the Barlow Medical Library.

The first reading of the application of Dr. Hiram M. Currey for membership by transfer from the Los Angeles County Medical Association was heard.

The final reading of the application of Dr. Roeds E. Yeager was then heard, and by ballot he was elected to membership in this association.

Dr. J. M. Burlew reported a very interesting case of leukemia coming under his observation quite recently. An unexpected early and fatal termination was the result.

The scientific program consisted of a discussion of tuberculosis. Dr. Waldo Wehrly gave a very complete and detailed paper on "The Early Diagnosis of Tuberculosis." This was limited to pulmonary disease. A written discussion prepared by Dr. K. H. Sutherland and read by Dr. E. L. Russell of the county health department brought forth many favorable comments.

Dr. A. E. Chase was the next speaker of the evening, his subject being "X-Ray Findings in Early Pulmonary Tuberculosis." This was a very concise and interesting paper and was illustrated by lantern slides in a very clear-cut manner. This was discussed by Dr. Willis Baker.

As an added attraction, Mr. M. J. Cloyes showed two reels of motion pictures—one on "Emergency Operations on Wounds of the Liver and Bladder," the other on "Colles' Fracture."

There being no more business to come before the society, the meeting adjourned and the members enjoyed a delicious lunch served by the nurses of the hospital through its superintendent, Doctor Zaiser.

Harry G. Huffman, *Secretary.*

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SAN JOAQUIN COUNTY

The stated meeting of the San Joaquin County Medical Society was called to order Thursday evening at 8:30 o'clock, March 5, in the Medico-Dental clubrooms at 242 North Sutter Street, Stockton, by Dr. George H. Rohrbacher, president.

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* For a complete list of general officers, of standing committees, of section officers, and of executive officers of the component county societies, see index reference on the front cover, under Miscellany.

After reading and approval of the minutes, Dr. Pieter van der Leek and Dr. Macario D. Bautista, both being favorably reported upon for membership by the Admissions Committee, were elected to membership.

The president appointed Drs. R. T. McGurk, J. F. Doughty, and J. V. Craviotto as a special History Committee to report to the California Medical Association some time this year.

The paper of the evening was read by Dr. Harold M. F. Behneman of the University of California on the subject, "The Present Status of Physiotherapy."

The discussion was opened by Dr. C. D. Holliger, followed by Doctors Smythe, Van Meter, and B. J. Powell, Sr.

There being no further business, the meeting was adjourned and refreshments served.

C. A. Broaddus, *Secretary.*

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SANTA BARBARA COUNTY

The regular meeting of the Santa Barbara County Medical Society was held at the St. Francis Hospital on Monday evening, April 13, with the president, Dr. H. J. Ullmann, in the chair.

Dr. A. E. Koehler of the Santa Barbara Cottage Hospital gave a most interesting and instructive talk on "Clinical Aspect of the Functions of the Suprarenal Gland."

This paper was discussed by Doctors Shelton, Nuzum, Moffat, Sansum, Pierce, Stevens, Thorner, Williams, Wilcox, and Ullmann.

The society then went into executive session and the secretary read a letter of thanks from Dr. Harold Sidebotham, who had recently been elected into honorary membership. Doctor Sidebotham being present was then introduced to the society.

A clipping from the San Francisco County Medical Society ***Bulletin*** was read regarding members of the County Medical Society having their names in the classified index of the telephone book, under the heading "Active Membership of the Santa Barbara County Medical Society." This was discussed by Doctors Means and Pierce and it was then moved, seconded and carried, that a committee be appointed to discuss with the telephone company the cost and whether such an arrangement was practical and report back at the next meeting. Doctor Koefod was appointed chairman of this committee and Doctors Ullmann and Eaton members.

It was then moved, seconded and carried, that the Santa Barbara County Medical Society take a vacation and dispense with the June, July, and August meetings.

The transfer card of Dr. Robert L. Richard from the San Francisco County Medical Society was read; also the applications of Drs. Joseph A. d'Alessio, H. I. Burtness, Lyman A. Cavanaugh, and August L. Mollath were read. Upon balloting, all these applicants were unanimously elected into membership.

Pursuant to the request of the State Society, the president appointed an historical committee, with Dr. Harold Sidebotham as chairman, the other member, Dr. P. C. Means, and these two to appoint a third.

William H. Eaton, *Secretary.*

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SANTA CLARA COUNTY

The Santa Clara County Medical Society met on the evening of March 11 at the San Jose Country Club as a joint assembly of the Santa Cruz, Monterey, San Benito, and Santa Clara counties to welcome our state president, Dr. Lyell C. Kinney of San Diego. A splendid chicken dinner was served, and several musical numbers were rendered by the quartet of the Santa Clara University.

The following delegates to the annual state meeting were elected:

Delegate: Dr. George Barry, term of two years.

Alternates: Dr. Dell Lundquist, term of two years; Dr. Cletus Sullivan, term of two years.

President Kinney of the State Association presented a very sound and constructive discussion of the functions of a county medical society, particularly as it related to the responsibility of the profession to public health, public education on health matters, and the subject of medical economics.

Following his address Mr. Hartley Peart, counsel for the State Society, discussed in an informal way some of the exigencies which may confront the physician in his relation to the law.

Lucas W. Empey, *Assistant Secretary.*

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VENTURA COUNTY

The regular monthly meeting of the Ventura County Medical Society was held Tuesday, March 10, at the Ventura County Clinic Building. The meeting was called to order by President Wright at 8 p. m.

Members present were: Doctors Smolt, Bianchi, Hendricks, W. S. Clark, Achenbach, Mosher, Homer, Felberbaum, Wright, Welch, D. G. Clark, Patton, and Armitstead.

There was some discussion about the proposed new arrangement of the county health problem, and a committee was appointed, consisting of Doctor Coffee (chairman), D. G. Clark and H. B. Osborn, this committee to report at the next meeting.

The scientific program consisted of the presentation of a paper by Doctor Kutzmann on "Back Pain in Relation to Urology." The paper was well received, being followed by an informal discussion.

R. B. Amitstead, *Secretary.*

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YOLO-COLUSA-GLENN COUNTIES

The Yolo-Colusa-Glenn Counties Medical Society met at Orland on Wednesday, April 8. Twenty-four of our own members attended, two from Tehama County, and one from Butte County. Twelve members of the Woman's Auxiliary attended.

Dinner was served at the Hotel Royal at seven o'clock, after which Dr. Howard Morrow gave a lecture on diseases of the skin, which was illustrated with lantern slides.

W. E. Bates, *Secretary.*

CHANGES IN MEMBERSHIP

New Members

Los Angeles County—

Edward H. Lane
Elmer Ellsworth Langley
Barnett Lipson
Richard B. McGovney
Charles D. Miller
Robert J. Moes
John Edward Neville
Robert Pottenger
James Edwin Scobee
George Byron Setzler
Dora J. Silverman
Esther Somerfeld
A. K. Swersie
Harold L. Thompson
Ralph J. Thompson
Lawrence F. Whittaker
David N. Yaker

Riverside County—Joseph W. Cook.

Sacramento County—Beaumont Brown.

San Diego County—Harry A. Cave.

San Francisco County—Henry LeRoy Franklin.

San Joaquin County—Macario D. Bautista, Pieter van der Leek.

Santa Barbara County—August L. Mollath, Hildahl I. Burtness.

Santa Clara County—John James Bourn, Richard E. Graun.

Santa Cruz County—Samuel Powell Tipson, Joseph Carr Johannes.

Siskiyou County—Joseph Langer.

Resignations

Eugene J. Bittman, from San Diego County.

Robert M. Dodsworth, from Los Angeles County.

Thomas I. James, from San Francisco County.

Emery Singer, from Los Angeles County.

Frank M. Wood, from Los Angeles County.

Leonard Woods, from Alameda County.

Transfers

Thomas J. Crowley, from San Francisco to San Mateo County.

Hiram M. Currey, from Los Angeles to Orange County.

F. G. Dutton, from San Francisco to San Mateo County.

Aaron Friedman, from San Francisco to San Mateo County.

F. Edwyn Garfinkle, from San Francisco to Marin County.

Sophie B. Hewitt, from San Francisco to Marin County.

George C. Holleran, from Riverside to Imperial County.

Myron S. King, from San Bernardino to Los Angeles County.

David E. Matzke, from San Francisco to Monterey County.

Leon Melkonian, from San Francisco to Santa Clara County.

John L. Montgomery, from San Francisco to Los Angeles County.

Robert Louis Richards, from San Francisco to Santa Barbara County.

David C. Strong, from San Francisco to Mendocino County.

Henry J. Trachman, from Sonoma to Los Angeles County.

Marie A. Vachout, from Santa Clara to Los Angeles County.

Deaths

Fulton, Dudley. Died at Los Angeles, March 22, 1931, age 57 years. Graduate of Jefferson Medical College of Philadelphia, Pennsylvania, 1899. Licensed in California, 1901. Doctor Fulton was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

Heaney, Robert Harold. Died at Yreka, March 18, 1931, age 40 years. Graduate of University of California Medical School, San Francisco, 1917. Licensed in California, 1917. Doctor Heaney was a member of the Siskiyou County Medical Society, the California Medical Association, and the American Medical Association.

Hoover, Frank Bernard. Died at San Jose, April 12, 1931, age 48 years. Graduate of Northwestern University Medical School, Illinois, 1907. Licensed in California, 1929. Doctor Hoover was a member of the Santa Clara County Medical Society, the California Medical Association, and the American Medical Association.

Lucas, William Thomas. Died at Santa Maria, March 21, 1931, age 81 years. Graduate of Cooper Medical College, San Francisco, 1876. Licensed in California, 1876. Doctor Lucas was a member of the Santa Barbara County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

Nichols, William Van Deveer. Died at Oceanside, March 16, 1931, age 70 years. Graduate of University of Pennsylvania School of Medicine, Philadelphia, 1885. Licensed in California, 1892. Doctor Nichols was a retired member of the San Diego County Medical Society, the California Medical Association, and the American Medical Association.

Packard, Charles Walter. Died at Los Angeles, March 18, 1931, age 58 years. Graduate of State University of Iowa College of Medicine, Iowa City, 1897. Licensed in California, 1927. Doctor Packard was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

Servin, Guillermo Ramon. Died at Los Angeles, April 11, 1931, age 70 years. Graduate of School of Medicine and Pharmacy of Guadalajara, Jalisco, Mexico, 1885. Licensed in California, 1914. Doctor Servin was a member of the Los Angeles County Medical Association, the California Medical Association, and the American Medical Association.

Williams, Marian Walker. Died at Hadlyme, Connecticut, August 29, 1930, age 56 years. Graduate of Johns Hopkins University School of Medicine, Baltimore, 1901. Licensed in California, 1920. Doctor Williams was a member of the Santa Barbara County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

Williams, Thomas Arthur. Died at Pasadena, March 30, 1931, age 66 years. Graduate of Cooper Medical College, San Francisco, 1901. Licensed in California, 1901. Doctor Williams was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

THE WOMAN'S AUXILIARY OF THE CALIFORNIA MEDICAL ASSOCIATION*

Orange County

The March meeting was held in Santa Ana at the home of Mrs. J. I. Clark, with Mrs. R. P. Yeagle assisting, and was followed by tea. A very interesting talk was given by Miss Ethel Swope, executive secretary of the Fifth District of the California Nurses' Association, outlining present nursing problems. Under the leadership of Mrs. W. P. Baker, the auxiliary voted to aid in making a health survey of the State of California, which has been initiated by President Hoover.

The April meeting was held in Capistrano at the home of Mrs. Paul Esslinger. Mrs. R. A. Cushman of Santa Ana gave an interesting review of the book "The Story of San Michele" by Dr. Axel Munthe. The ladies were then entertained by two very gifted musicians from Laguna Beach—Mrs. Dyer, who sang a series of Japanese songs, accompanied by Mrs. Hubbard. The tea hour then adjourned the meeting.

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Sacramento County

A woman's auxiliary in Sacramento County was formed at the earnest solicitations of Mrs. Percy, our state president, on March 4 at the home of Mrs. A. M. Henderson. Forty-seven ladies attended and joined the organization. The auxiliary adopted the name of Woman's Auxiliary to the Sacramento Society for Medical Improvement, and elected the following officers: Mrs. A. M. Henderson, president; Mrs. W. E. Briggs, first vice-president; Mrs. William K. Lindsay, second vice-president; Mrs. Dave Dozier, recording secretary; Mrs. C. E. Von Geldern, correspond secretary; Mrs. Frederick Scatena, treasurer. Directors—Mesdames F. F. Gundrum, Edward Babcock, F. W. Lee, George Foster, W. F. Van Den Berg, and R. A. Peers.

Edna M. Ball, *Secretary.*

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* As county auxiliaries to the Woman's Auxiliary of the California Medical Association are formed, the names of officers should be forwarded to the state secretary-treasurer, Mrs. Dexter R. Ball, 2419 Bonnie Brae Street, Santa Ana, and to the California Medical Association office, Room 2004, 450 Sutter Street, San Francisco. Brief reports of county auxiliary meetings will be welcomed for publication in this column.

NEVADA STATE MEDICAL ASSOCIATION

W. A. SHAW	President
R. P. ROANTREE, Elko	President-Elect
H. W. SAWYER, Fallon	First Vice-President
E. E. HAMER, Carson City	Second Vice-President
HORACE J. BROWN	Secretary-Treasurer
R. P. ROANTREE, D. A. TURNER, S. K. MORRISON	Trustees

COMPONENT COUNTY SOCIETIES

WASHOE COUNTY

The regular monthly meeting of the Washoe County Medical Society took place on the night of April 12 at the State Building, Reno. After approval of the minutes, the names of Doctors Schramm and Wright were favorably voted upon for membership.

Dr. E. E. Hamer, president of the State Board of Health, read an informative paper on the proceedings of the session of the Nevada legislature which recently closed. In speaking of his efforts to bring about certain amendments to the present Medical Practice Act, he stated the difficulty of his efforts. It was with difficulty that the passage of Senate Bill No. 122 was secured. The present Medical Practice Act for Nevada is, in substance, a copy of the California Medical Practice Act, but has some improvements. To practice now in Nevada a foreigner must either be naturalized or show evidence that the naturalization will be effected. Permit for an applicant to appear for examination or reciprocity is now discretionary with the Board of Medical Examiners. Taken altogether, Doctor Hamer said Nevada now possesses one of the best medical practice acts in the United States. This certainly is a long step forward, for it places the admission of candidates upon an equality with any reciprocating state.

The clauses in the Act with reference to unprofessional conduct have been strengthened. Taken altogether, Nevada now goes before the nation with a licensing board that is as careful of requirements and as exacting in details as any state in the Union.

The bill which proposed to regulate the present scope of the osteopaths died a political death. It is entirely possible that the defeat of the regular profession in this session of the Nevada state legislature have a more salutary effect upon the profession than would have been gained by a victory. If any proposal is in order for any medical changes for the next two years, it is altogether likely that there will be a more perfected organization which will be competent to handle the situation. There was considerable discussion as to the hows and wherefores of such proceedings. As always, there were divergent opinions with reference to the best manner of procedure; some questioned whether it was even feasible to attempt any corrective legislation at all. Doctor Hamer's paper received the thanks of the society, and he was warmly complimented for his efforts in the legislature on behalf of the interests of the profession.

Thomas W. Bath, *Secretary.*

UTAH STATE MEDICAL ASSOCIATION

WILLIAM L. RICH, Salt Lake City	President
R. A. PEARCE, Brigham City	President-Elect
M. M. CRITCHLOW, Salt Lake City	Secretary
J. U. GIESY, 701 Medical Arts Building, Salt Lake City	Associate Editor for Utah

COMPONENT COUNTY SOCIETIES

BOX ELDER COUNTY

The meeting of the Box Elder County Medical Society was held at Brigham on March 12. Those present were: Doctors Luke, Betenson, Mahannah, Pearse, Wymuller, and Cooley. Doctors Betensen and Pearse were appointed on the Committee for the Utah Whitehouse Conference on Child Health and Protection. The time of the meeting was taken up with business affairs of the society.

R. A. Pearse, *Secretary.*

CARBON COUNTY

On the evening of March 21 at Price, the Carbon County Medical Society entertained its members and visiting members of the Utah State Medical Association at a banquet given in honor of Dr. R. L. Dresel of San Francisco.

After the banquet Doctor Dresel gave a very interesting paper on "Compression Fractures of the Spine."

SALT LAKE COUNTY

A special meeting of the Salt Lake County Medical Society was held at the Newhouse Hotel on Friday evening, March 20.

The meeting was called to order at eight o'clock by President F. M. McHugh. Thirty-five members were present.

E. R. Murphy acted as secretary. The minutes of the previous meeting were read and accepted without correction.

The applications of Drs. Lester Wight, R. A. Johnson, and S. L. Netoliskey were read and turned over to the board of censors.

The following resolution of the Necrology Committee, Dr. J. U. Giesy, chairman, was read:

In Memoriam

Whereas, Our friend and respected confrère, Dr. Ira A. E. Lyons, has in a fullness of years reached the end of an admired and useful life; and

Whereas, We his fellow members of the Salt Lake County Medical Society mark his passing with a sincere regret; be it

Resolved, That we formally express our sense of loss in the form of this resolution; that a copy of the same be spread for record on the minutes of the society, and a copy sent to the daughters who survive our friend, as a mark of our collective and individual sympathy in their loss.

Dr. J. Z. Brown moved that the resolution be approved and that a copy be forwarded to California and Western Medicine. Motion seconded and carried.

Dr. R. L. Dresel of San Francisco addressed the society on several orthopedic subjects. This paper was discussed by Drs. L. C. Snow, W. F. Beer, L. W. Paul, and S. L. Baldwin.

* * *

The regular meeting of the Salt Lake County Medical Society was held Monday evening, April 13, at the L. D. S. Hospital. Forty-one members and five visitors were present.

The meeting was called to order at eight o'clock by President F. M. McHugh.

The minutes of the previous meeting were read and accepted without correction.

Dr. A. C. Callister, chairman of the hospital, conducted the clinical meeting. The following papers were presented: "Duodenal Ulcer" by J. S. Tyree; "Gunshot Wound of Lung" by L. A. Stevenson; "Harelip and Cleft Palate" by A. C. Callister; "Pituitary Tumor" by W. R. Tyndale and D. W. Henderson; "Abdominal Pregnancy" by O. J. LaBarge.

The following applicants were unanimously elected members of the society: Drs. R. J. Johnson, S. Netolisky, and L. E. Wight.

Barnet E. Bonar, *Secretary.*

UTAH COUNTY

The regular bimonthly meeting of the Utah County Medical Society was held the evening of March 25 at the Hotel Roberts, in Provo.

Dr. F. W. Taylor spoke on "Treatment of Epilepsy."

This was one of the most interesting meetings the society has had in a long time. The paper was very well prepared and excited much favorable comment and interest.

It was followed by a discussion of medical economics by the attending members.

On April 1, the Utah County Medical Society gave a farewell banquet to Dr. J. W. Aird and his son J. L. Aird, who are leaving for California where they will continue their professional work.

Dr. J. L. Aird has served as our secretary for the past two years, and has taken a very active part in society work.

Dr. J. W. Aird has been for many years one of the outstanding surgeons in our state, and has occupied the president's chair of the society and the Utah State Medical Association. His many friends throughout the state and members of other component societies were invited on the night of the banquet to bid him godspeed.

On the evening of Monday, March 9, the Utah County Medical Society were the guests of the Utah County Dental Society at the Hotel Roberts, Provo. H. G. Merrill, M. D., spoke on "Eye Facts All Should Know."

Charles M. Smith, *Secretary.*

⁂

WEBER COUNTY

The regular meeting of the Weber County Medical Society was held March 19 at the Hotel Bigelow. A banquet preceded the meeting. President E. P. Mills presided.

Dr. Foster Curtis then gave a very interesting paper on "Diagnosis of Mental Diseases."

Conrad H. Jensen, *Secretary.*

OBITUARY

Ira A. E Lyons

1849-1931

Dr. Ira A. E. Lyons, eighty-two, of 801 East South Temple Street, died at 1 p. m. Wednesday in a local hospital of a cerebral hemorrhage.

Doctor Lyons was one of the first eye, ear, nose, and throat specialists to practice in Salt Lake, coming here about fifty years ago. He was retired at the time of his death, but was a member of the Salt Lake County Medical Association.

He was active in the First Presbyterian Church, being a former elder.

Surviving are two daughters, Miss Millicent Lyons, a teacher at Granite high school, and Mrs. Grace Newlee of Los Angeles. His wife, Rachel Miller Lyons, died last November.

X-Raying Mummies and Old Masters.—"Death by violence, probably," said the expert as he examined the x-ray film of a boy's head that he had just developed. "The skull is fractured, the jaw bone is broken, and a tooth has apparently been knocked out. The injuries indicate that the cause of death was a blow from some such weapon as a club, and they are quite different from those that would be brought about by a fall or other common accident.

"However, nothing can be done about it, for the crime—if it really was a crime—was committed over three thousand years ago, and neither evidence nor criminal could now be produced in court. We can only trust that Egyptian justice was effective and that the little fellow did not die unavenged."

This curious case was brought to light by Harold G. Petsing, educational director of the Westinghouse X-Ray Company, during the course of a series of x-ray investigations which he has been carrying out on mummies at the Brooklyn (New York) Museum.

"This work, which has been undertaken at the behest of Edward S. Blum, president of the board of trustees of the museum, and which is under the direction of Dr. William H. Fox, director of the museum, emphasizes the scientific importance of the x-ray examination of mummies, which discloses their contents without damaging them in any way, said Mr. Petsing. "Each of the first three mummies I x-rayed showed something of interest."

Mummies are by no means the only objects collected by museums that should be subjected to x-rays, according to Mr. Petsing. Of special importance is the newly developed art of studying old paintings by x-ray methods. Considerable work in this field has been done both in Europe and in this country, but a standardized technique has not yet been worked out, and it is one of Mr. Petsing's objects to secure scientific data to guide future investigators.

The old masters used pigments that were for the most part made up of mineral and metallic colors. These pigments are quite opaque to x-rays, so that a radiograph taken with moderate power is almost a complete replica of the original painting. every detail and every brush mark being clearly distinguishable. Modern pigments, on the other hand, are largely of vegetable and coal-tar origin, and these are very transparent to the penetrating rays. Hence, a radiograph of a modern painting taken with moderate power shows practically nothing. This fact provides an excellent method of detecting modern forgeries of old masters.

The same method does not, of course, apply to early copies of old pictures, because in such cases the copyists used opaque pigments also, but other methods are used to distinguish originals from replicas. In the first place, every painter has an individual method of using his brush, and the brush marks that are shown in x-ray pictures are as characteristic as fingerprints. The expert, therefore, is frequently able to tell the genuine from the false by studying these marks. Furthermore, in making an original painting, the artist usually makes a number of changes in detail as the work progresses, all of which, though painted over and invisible to the eye, are clearly seen in the radiograph. Copies, on the other hand, rarely show such changes.

Sometimes the x-ray shows that a later artist has changed an early painting, either deliberately, or in an attempt at restoration, and sometimes it reveals an entirely different picture lying concealed beneath the one visible on the surface. In such cases, it may often pay to remove the later work and restore the original to its primitive conditions.

X-rays are also useful for studying embedded fossils, and for revealing the structure of rare specimens of fish, birds, reptiles, small mammals, and even insects. They can, in many cases, show the difference between genuine medieval works of art and modern forgeries. Turned upon ancient caskets, cabinets, and writing desks, they may uncover unsuspected secrets.

These are but a few of the possible applications of x-rays in a modern museum, and it seems probable that every museum of importance will, in the near future, regard x-ray apparatus as a necessary part of its standard equipment.—*Westinghouse Technical Press Service.*

MISCELLANY

Items for the News column must be furnished by the twentieth of the preceding month. Under this department are grouped: News; Medical Economics; Correspondence; Department of Public Health; California Board of Medical Examiners; and Twenty-five Years Ago. For Book Reviews, see index on the front cover, under Miscellany.

NEWS

University of California Medical School.—The University of California Medical School will offer summer courses for graduates in medicine from June 8 to 20, 1931.

Several clinical branches will be given in the morning and afternoon courses, including the following subjects: general medicine, general surgery, otorhinolaryngology, genito-urinary diseases, tumors, roentgenology, pediatrics, circulatory diseases, laboratory dianosis, pathology, neuro-otology, and operative technique.

In addition to the regular courses, there will be combined rounds of the departments of medicine and surgery at nine on Wednesday mornings and daily noon lectures and clinico-pathological conferences. The rounds and lectures will be held in Toland Hall, University Hospital, and the clinico-pathological conferences in Cole Hall, Medical School building. The rounds, lectures, and conferences will be open to the medical public without charge.

A detailed announcement of courses will be ready about May 1, 1931, and will be mailed on request to the dean's office, University of California Medical School, Parnassus and Third avenues, San Francisco.

The Board of Trustees of Stanford University has received and accepted an offer from an unknown donor to contribute $2,500,000 toward the erection of a medical school building on the condition that the university arrange to endow the same with not less than $1,250,000. The university must raise this sum on or before February 1, 1932.

Radio Broadcast by San Francisco Heart Clinic.—On Monday, March 9, 1931, the San Francisco Heart Committee of the San Francisco County Medical Society, whose chairman is Dr. Eugene S. Kilgore, gave the first of a series of radio broadcasts on the prevention and relief of heart disease. The broadcast is being given every week as follows:

KFRC, Monday, 3:45 to 4:00 p. m.

KJBS, Tuesday, 11:15 to 11:30 a. m.

The talks are written by physicians and are an attempt to give to the public, in an ethical way, honest information on medical facts concerning heart disease, which is the leading cause of death. The program is arranged by the Section on Education and Publicity, of which Dr. John Philip Strickler is chairman.

Southern California School of Medicine Announces Extension of Program.—The school of medicine, University of Southern California, will offer the work of the third year, beginning clinical work, with the opening of the fall term in September 1931, according to announcement of Dr. Paul S. McKibben, chairman of the medical faculty at Southern California.

This step in the development of the medical school at Southern California was revealed at a recent meeting of the Medical Advisory Committee, of which Dr. W. W. Becket of the board of trustees of the university is chairman. Other members of the committee are: Dr. Wayland Morrison, Dr. Seeley G. Mudd, Dr. Ernest A. Bryant, Dr. Granville MacGowan, and Dr. Edward M. Pallette, all of Los Angeles; and Dr. George Dock of Pasadena.

The School of Medicine of Southern California was opened for the instruction of students in September 1928, and during the academic year 1928-29 only the work of the first year was offered. In 1929-30 the work of the second year added. The opening of the academic year 1931-32 in September will mark the extension of the school's program to include the third year.

California Conference of Social Work.—The twenty-third annual meeting of the California Conference of Social Work will be held in Berkeley, May 17 to 21. The program theme is "Economic Justice and Social Progress." Sections on family and child welfare, public health, use of leisure time, organization and administration, delinquency, industry, education, and racial and citizenship problems will meet each morning from 9 to 12:45 o'clock; luncheon meetings will be held at one o'clock; during the afternoons the twenty-four hundred groups affiliated with the Conference will hold their meetings; and in the evenings the entire conference body will come together in general session.

Conference activities will be centered in International House and many of the delegates will be housed there, as there are living accommodations for 200 women and 100 men. Conference sessions will be held at Wheeler Hall on the University of California campus, at the College Women's Club, Hearst Gymnasium, and International House.

Many new names will appear on the Conference program and interesting experiments in types of meetings will be tried. Conference sessions are open to everybody interested in social welfare.

For copy of the program and other information regarding the conference, write to the executive secretary, Miss Anita Eldridge, 20 Second Street, San Francisco.

The International Society for Crippled Children, Inc.—The second world conference of workers for crippled children will be held at The Hague the week of June 28, 1931.

This meeting is an outgrowth of the Geneva conference held two years ago, which was so eminently successful.

MUCH IN LITTLE

YOU SHOULD KNOW THAT

Little children think all pills are candy.

Lye has blinded the eyes of children who handle it.

Toys may have loose parts which children swallow.

Flies and mice will not go where they cannot get food.

A running engine quickly fills a closed garage with deadly gas.

The vaccination school law has made it impossible for Pennsylvania to have much smallpox.

An express train is apt to approach a crossing the same time as does an automobile.

Cities using filtered and chlorinated water have lower death rates than others.

Airship rides will not cure deafness, nor will patent medicines cure tuberculosis.

Medical advice given by lay or uneducated people is worth what it costs—nothing.

Measles kills many babies, and whooping cough is more deadly than scarlet fever.

A child must have good vision, normally so or corrected by glasses, in order to get through school successfully.

Industrial accidents are decreasing because people are becoming more careful in handling machinery.

Poisons kept on the medicine shelf may be taken accidentally at night.

Knowing how to swim frequently keeps people from drowning, but overconfidence in expert swimmers may lead to their doom.

Children watch their parents in all their acts. They mimic carelessness as much as precaution.

If you have read this and adopt the necessary precautions, the lives of your children and yourselves will be better safeguarded.—H. B. W., in *Pennsylvania Health,* October 1930.

TWENTY-FIVE YEARS AGO*

EXCERPTS FROM OUR STATE MEDICAL JOURNAL

Vol. IV, No. 5, May 1906

[Editor's Note.—*On April 18, 1906, the great San Francisco catastrophe took place. In the great fire which devastated the city the office of the California State Journal of Medicine, the official publication of the Medical Society of the State of California, was burned to the ground. The May issue of the California State Journal of Medicine became a simple four-page leaflet without a single advertisement, which was gotten out under great stress and strain at a printing office at Oakland, by the late Dr. Philip Mills Jones, founder of the state journal and the then editor. The excerpts which appear in this month's Twenty-Five Years Ago column are taken from this little four-page leaflet.*]

From some editorial notes:

A Sad Greeting.—It was a very different sort of May issue we had planned. But, as all the world now knows, our beautiful city of San Francisco has been almost wiped out of existence. The editor has been able to confer with but one member of the Publication Committee and a few of the delegates living in Oakland, and these have authorized the bringing out of this number in its present form. There is not a business house of any sort left standing in San Francisco—no paper house and no printer—so this number is printed in Oakland. The mailing list of the Journal has also vanished, so that many exchanges and subscribers will not at once receive this issue. However, enough copies will be printed to supply all regular recipients in the course of time. We would respectfully request other journals to copy this statement and also say that no sample copies will be sent out. The present address of the Journal, or rather of the editor (for the Journal office is beneath the editorial hat, which was almost his only possession not destroyed), is 1230 Telegraph Avenue, care of Dr. Frank Adams, Oakland, California. Correspondents are respectfully warned, however, that their letters may not be answered immediately, for almost all typewriters have been destroyed and the whereabouts of our stenographer is an unknown quantity.

* * *

Future Issues.—We desire to get out this May issue in its sadly abbreviated shape in order to let all whom it may concern know that while we are now sitting on the ashes of our former property and have nothing but a pencil, a piece of paper, and some credit, the spirit of the physicians of California is in no wise daunted. When the Journal was born, we were told that it could not live; but it throve and waxed lusty. Shall we allow the "devil on two sticks" to do what human scheming could not do—stop us? Hardly! As there will be a newer and a better and more beautiful San Francisco, so there will rise, Phoenix-like, we trust, a better and more useful *California State Journal of Medicine.* But we must needs ask your patience, for our troubles are mighty, and while they do not crush us, they weigh heavily. The June number will not be issued until it can come out in regular size and garb.

* * *

To Our Advertisers.—All the world has extended its sympathy and its aid to stricken California, and never has general human sympathy been more gratefully received. Now is the time for our out-of-California advertisers to aid our society and its Journal. We shall need every penny we can secure in the rebuilding of our Journal and we ask you, gentlemen all, not to take cognizance of the fact that no advertising pages appear in this issue, but to allow us to charge you with the regular charge for your monthly advertising space. Your courtesy in so doing will be highly appreciated and we will endeavor in future issues to acknowledge your courtesy and your contribution to the relief of California, its State Medical Society, and its *State Journal of Medicine.* If this is your pleasure, please so advise the editor.

* * *

Semicentennial Meeting.—Undoubtedly the annual meeting of the Medical Society of the State of California for 1906—its semicentennial—will remain forever the one most generally remembered. The registration book unfortunately is not at hand—one can only say that it once existed—but it is known that about 4 p. m. on Tuesday, April 17, the first day of the session, nearly three hundred members had registered. The program was unusually good; at least one copy is known to exist, and there may be others. . . .

Everything promised an unusually harmonious and profitable meeting. Unfortunately our plans were not well adapted to those of the remainder of the universe. At 5:14:48 on the morning of the 18th, the city was wrecked by an earthquake which lasted but forty-eight seconds. This, to those in other places, is now but ancient history, but to those of us who went through that and all the following days of horror, it will never become ancient. Fire broke out in unnumbered places immediately after the shock, and as nearly all the water supply mains had been broken, what the shock began the fire completed.

Shortly after 9:30 a. m. on Wednesday, the president, Dr. R. F. Rooney, the secretary, Dr. Philip Mills Jones, and Drs. James H. Parkinson and H. Bert. Ellis gathered on the steps of the wrecked Y. M. C. A. building and declared the society adjourn *sine die.* The secretary made three trips to the Association office, on the third floor, and saved the account books, minutes of the Council and minutes of the House of Delegates, together with some miscellaneous papers hastily gathered together. All advertising contracts, current vouchers, etc., are in a safe deposit vault, perfectly intact. When or where the next meeting of the society will be held, no one knows; probably a meeting of the delegates will be called in due time. Even the whereabouts of the president, Doctor Rooney, are unknown to the secretary.

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*This column strives to mirror the work and aims of colleagues who bore the brunt of state society work some twenty-five years ago. It is hoped that such presentation will be of interest to both old and recent members.

Some buildings were burned fiercely within fifteen minutes after the shock, and within twelve hours one-half the city was a solid mass of fire. So fast did it spread that the fire raged as fiercely, seemingly, for blocks behind the fire line as it did immediately in the zone of devastation. In places it spread so fast that those escaping were caught and had to abandon the few effects they were endeavoring to remove. In the streets on the hills which were considered safe, whole trainloads of personal effects and household goods were burned. . . .

* * *

Our Policy.—For nearly three years there has been no issue of the Journal which did not contain some reference to the nostrum evil, and we cannot allow this sadly abbreviated issue to go to press without comment on that nasty business. Presumably there were many participators in the nostrum business who rejoiced to think that we were wiped out. If so, their joy will be but short-lived, for our policy will be unchanged. We expect to keep on fighting the nostrum graft and its detail nuisances just so long as we exist, or at any rate during the lifetime and control of the present editor and publication committee. . . .

DEPARTMENT OF PUBLIC HEALTH

By Giles S. Porter, M. D., *Director*

Septic Sore Throat Is Now Reportable.—At its regular meeting held in San Francisco, March 14, 1931, the California State Board of Public Health passed the following resolution:

Resolved, That *septic sore throat* is hereby declared a reportable disease in California.

Fleas May Transmit Endemic Typhus Fever.—The United States Public Health Service reports that there is strong evidence to indicate that, in this country, fleas may be the means of transmission of typhus fever from person to person or from a possible rodent reservoir to human beings. It has been known for many years that the old-world type of typhus fever is transmitted by the body louse. Study of a milder type of this disease which is found in the United States indicates that the body louse may not be involved in the transmission of the type of disease that is found in this country. The result of this study is of considerable epidemiological importance to public health authorities in California and in other states as well.

Sewage Disposal at the Summer Home.—Each year, more city people drift to the country for the summer season. Many of them have purchased or built summer homes and there is an increased demand for information relative to methods of sewage disposal at such places. A bulletin entitled "Rural Sanitation," prepared by C. G. Gillespie, chief of the Bureau of Sanitary Engineering, supplies practical information upon this subject.

A Triumph in Diphtheria Control.—The record of New York City in the control of diphtheria in 1930 marks the peak of performance in the control of this disease. The following extract is reprinted from the *Weekly Bulletin of the City of New York Department of Health* for February 7.

During the year 1930 there were 3794 cases of diphtheria reported to the department of health, of which 2882 occurred in children under 10 years of age, 350 in children 10 to 15, and 562 in persons 15 years and over. Investigation of the 3794 cases showed that 3530 children had never received injections of toxin-antitoxin, 75 children had received such injections less than six months previously, and 189 had received the injections more than six months before the illness. It has never been maintained that a course of three injections of toxin-antitoxin will completely immunize 100 per cent of the children so treated. Park's studies indicate that approximately 80 per cent will be protected by one course of treatment and that the great majority of the 20 per cent left unprotected can be immunized with a second course of toxin-antitoxin injections. Under the circumstances, the above showing is excellent.

Still more striking is the showing of toxin-antitoxin immunization in the fatal cases of diphtheria. Our records show 198 deaths from diphtheria in the city during 1930. Only four of the patients had previously received toxin-antitoxin, and in two of these four the immunizing injections had been given only within the month in which the disease occurred and so could not be effective.

A tabulation of the 198 fatal cases shows that 162 of the patients were treated with antitoxin, but here again a detailed study of the individual cases brings out some interesting facts. It must be remembered that, valuable as antitoxin is in the treatment of diphtheria, it is not an infallible remedy. The results depend on the promptness with which the antitoxin is administered and on the size of the dose. In severe cases the method of administration is also a factor. These well established facts are well brought out by our study of the 198 fatal cases in 1930. The antitoxin history of these cases was as follows:

Antitoxin before the third day of disease	58
Antitoxin on third or later days	104
Received no antitoxin	18
Antitoxin data unobtainable	18

In New York State, exclusive of New York City, similar results have been achieved. The number of diphtheria deaths in New York State decreased from 337 in 1925 to 144 in 1930, and the number of cases decreased from 4370 to 1594. The diphtheria death rate for the state has decreased from an average of 10.1 per 100,000 population for the period 1921-1925 to 3.8 for the years 1926-1930, during which period approximately three-fourths of a million children were immunized against diphtheria with toxin and antitoxin. Of this number, more than 185,000 were under five years of age.

Deaths From Alcoholism Increase.—Deaths from alcoholism in California, last year, increased by 14 per cent. There were 230 deaths from this cause in 1930 and 202 such deaths in 1929. During the past ten years there has been an increase each year in the number of deaths from alcoholism in California. A corresponding increase is noted also in the number of deaths from cirrhosis of the liver. While there is no definite evidence available to show that all deaths from cirrhosis of the liver are due to the use of alcohol in excessive amounts, the proportion of such deaths is so great among those who use alcohol excessively that it constitutes ample justification for grouping these causes of death together. The United States Bureau of the Census for many years has grouped together mortality statistics for alcoholism and cirrhosis of the liver. There were 631 deaths from cirrhosis of the liver in California in 1930 as compared with 566 such deaths in 1929. This represents an increase of more than 10 per cent.

The following table shows the number of deaths in California that have occurred from alcoholism and cirrhosis of the liver, by years, since 1920:

Year	Alcoholism	Cirrhosis of the Liver
1920	37	286
1921	69	314
1922	110	358
1923	125	345
1924	161	401
1925	146	389
1926	167	418
1927	190	501
1928	197	556
1929	202	566
1930	230	631

CALIFORNIA BOARD OF MEDICAL EXAMINERS

By CHARLES B. PINKHAM, M. D.
Secretary of the Board

Results of Los Angeles Examination February 3 to 5, 1931

PASSED

School	Year of Graduation	Per Cent
College of Medical Evangelists	(1930)	89 4/9, 86 7/9, 86 7/9
Creighton University	(1930)	83 4/9, 75
Hahnemann Medical College of Philadelphia	(1930)	83 2/9
Harvard	(1929)	84 8/9
Harvard	(1930)	84 7/9
Imperial University of Tomsk, Russia	(1911)	84 6/9
Jefferson Medical College	(1929)	83 2/9
Jefferson Medical College	(1930)	83 3/9
Johns Hopkins	(1919)	77
Johns Hopkins	(1930)	87 2/9
McGill University	(1930)	88 7/9, 85 3/9
Northwestern University	(1930)	87 6/9, 87, 85 4/9, 85, 84 7/9, 84 3/9, 83 7/9, 82 1/9, 78 1/9
Queens University, Canada	(1921)	77 4/9
Royal College of Physicians and Surgeons, England	(1921)	85 1/9
Rush	(1921)	84 8/9
Rush	(1930)	89, 88 2/9, 85 1/9, 82 7/9
St. Louis University, Missouri	(1930)	91 4/9, 88 3/9, 83, 82 8/9, 82 8/9, 77, 75 1/9
State University of Iowa	(1928)	79 5/9
Syracuse University	(1930)	87 5/9
Tulane University	(1930)	86 1/9
University of Colorado	(1930)	86 5/9, 86 4/9, 82 1/9
University of Edinburgh, Scotland	(1930)	79 6/9
University of Guadalajara, Mexico	(1921)	77 8/9
University of Glasgow, Scotland	(1930)	76 4/9
University of Illinois	(1927)	77 6/9
University of Illinois	(1928)	84 2/9
University of Kiel, Germany	(1921)	80
University of Louisville, Ky.	(1929)	86 6/9
University of Michigan	(1927)	87 4/9
University of Michgan	(1930)	88 1/9
Unversity of Mnnesota	(1930)	84 7/9, 84 3/9
University of Nebraska	(1928)	81
University of Oregon	(1929)	84
Univrsity of Oregon	(1930)	89 5/9, 88 3/9, 85 2/9
University of Pennsylvania	(1928)	86 2/9
University of Pennsylvania	(1929)	77 4/9
University of Pennsylvania	(1930)	87
University of Toronto, Canada	(1930)	82 8/9

FAILED

School	Year of Graduation	Per Cent
College of Medical Evangelists	(1930)	71 1/9
Emory University	(1925)	64 5/9
Laval University, Canada	(1912)	66 6/9
Royal University of Naples, Italy	(1916)	63 8/9
Trinity University, Canada	(1904)	65 3/9

News Items, May 1931

It is reported that on March 3, 1931, Attorney-General Webb rendered Opinion No. 7425 in interpretation of Section 1 of "An Act to regulate the sale, possession, distribution and use of habit-forming, narcotic and other dangerous drugs and substances, and providing penalties for the violation thereof." That "The Act in question requires that the prescribing physician in his own handwriting affix the date of the prescription, designate the drug and the manner of its use, the name of the person for whom the same is prescribed and his address . . . and that the prescription shall be signed and dated as of the date on which said prescription is written by the physician." This opinion is of sufficient importance to be presented to the medical profession for their guidance.*

"Appointment of J. M. Scanland of San Francisco as assistant to Medical Superintendent J. H. Stice of the Napa State Hospital was announced here by Dr. J. W. Toner, the State Director of Institutions. Dr. Scanland was the medical superintendent of the Napa institution sixteen years ago. He had been in charge of the Montana State Hospital at Warm Springs, Montana" (Sacramento *Bee*, March 13, 1931).

H. G. Campsie, according to reports, pleaded guilty in Los Angeles, March 23, 1931, to a charge of violation of the Medical Practice Act and was sentenced to pay a fine of $500 or serve fifty days in the city jail, sentence suspended for six months.

Charles H. Collier on March 27, 1931, in the Justice Court of Alhambra pleaded guilty to a violation of the Medical Practice Act and was sentenced to pay a fine of $100.

The following is a digest of a report filed by Special Agent Davidson: "The Police Department yesterday (March 25, 1931) arrested the above mentioned individual (George Malcolm Condon) for petty theft, growing out of the theft of medical books and surgical instruments while working as an orderly at the San Francisco Hospital, and he was this morning in the court of Police Judge Steiger sentenced to serve ninety days in the county jail. At the time of his arrest a number of cards were found in his possession, reading 'Dr. George M. Condon.' We interviewed him today in the city prison and he informed us he has never attempted to attend any medical or premedical school. He is about twenty-one years of age and a native of Massachusetts. . . . "

"Dr. Edgar E. Ewing, Huntington Beach physician, Tuesday pleaded guilty in the Justice Court of Huntington Beach to a violation of the State Poison Act in prescribing narcotics to an addict. Judge Chris Pann sentenced him to serve 150 days in the county jail and pay a fine of $150. He then suspended the jail sentence and all but $75 of the fine, which was paid" (Santa Ana *Bulletin*, March 27, 1931).

Reports of eyesight swindlers continue, the latest, according to a clipping from the San Francisco *Chronicle* of March 9, 1931, being D. B. Curry, farmer in the Pleasant Grove district, who was victimized out of $600 by two men representing themselves as optical experts, who "administered drops of some kind of fluid to the eyes of Curry in 'testing' his eyes."

"Dr. George Gillespie, chiropractor and drugless physician, was held to answer on a charge of murder yesterday by Municipal Judge Theresa Meikle. Gillespie was arrested last Tuesday, following the death of Beatrice Fern Fisher, 355 Fulton Street. Police claim she died of an illegal operation performed by Doctor Gillespie" (San Francisco *Examiner*, April 1, 1931).

"Emma Horton, 74-year-old physician, was arrested today for suspicion of murder in the case of Miss Aletha Elkins, twenty-three, who died yesterday as the result of an alleged illegal operation." (Press dispatch from Los Angeles printed in the San Francisco *Examiner*, April 14, 1931.)

"The charges against Dr. Ralph Newcomb, Upper Lake physician, for the alleged use of narcotics, were dismissed by Judge Benjamin C. Jones in Superior Court Friday for lack of sufficient evidence. The physician's wife, Mrs. Silvia Newcomb, had sworn to the narcotic complaint the week before. . . . When the case was called Friday, Mrs. Newcomb was present and told the court that she did not wish to press the charges she had previously made against the doctor and the case was subsequently dismissed. Doctor Newcomb, who is about forty years old, had his license to practice medicine revoked by the State Board some time ago for alleged drug addiction and about a year ago he was granted permission to resume practice . . ." (Lake County *Bee*, March 18, 1931).

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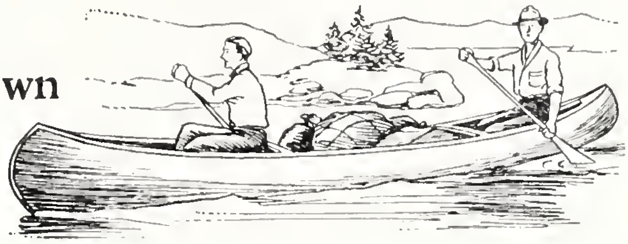
* See, also, editorial comment in this issue of California and Western Medicine on this item concerning California narcotic laws.—G. H. K.

"BEN" 'N' "RACK"—*"In Person"*



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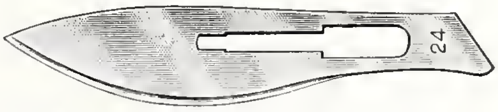

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Oxnard, California

TRUTH ABOUT MEDICINES

(Continued from Page 31)

combination of Bovinine with a liver extract of undeclared character must be held an unscientific mixture. The case histories are entirely unsatisfactory and report conditions in which it is known that there could not possibly be the results reported. The cases of pernicious anemia are not reported with sufficient data on which to base an opinion. The Council reaffirmed the rejection of Bovinine and declared Neobovinine unacceptable because the information in regard to its composition is inadequate, because the therapeutic claims advanced for it are unwarranted, and because the combination of "Bovinine" with a liver extract of undeclared character is unscientific.—*Journal of the American Medical Association,* March 14, 1931, p. 860.

"Spin-L-Ron" Not Acceptable for New and Non-Official Remedies.—The Council on Pharmacy and Chemistry reports that "Spin-L-Ron" is the nondescriptive name under which the Ford Chemical Company markets capsules, each stated to contain spinach dehydrated, five grains; liver extract powder, two grains; and iron and ammonium citrate, three grains. The Council declared "Spin-L-Ron" unacceptable for New and Nonofficial Remedies because it is a complex, unscientific mixture of indefinite composition, which is marketed under a nondescriptive name and with unwarranted therapeutic claims.—*Journal of the American Medical Association,* March 14, 1931, p. 860.

The Control of Narcotic Addiction.—Narcotic addiction is again the focus of an extraordinary amount of attention. The results of investigations concerning the subject are being made public. The taking of narcotics is usually an attempt on the part of someone with little will power to achieve a state of

(Continued on Page 45)

VENTRICULIN

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Specific in Pernicious Anemia

Accepted for N.N.R. by
Council on Pharmacy and
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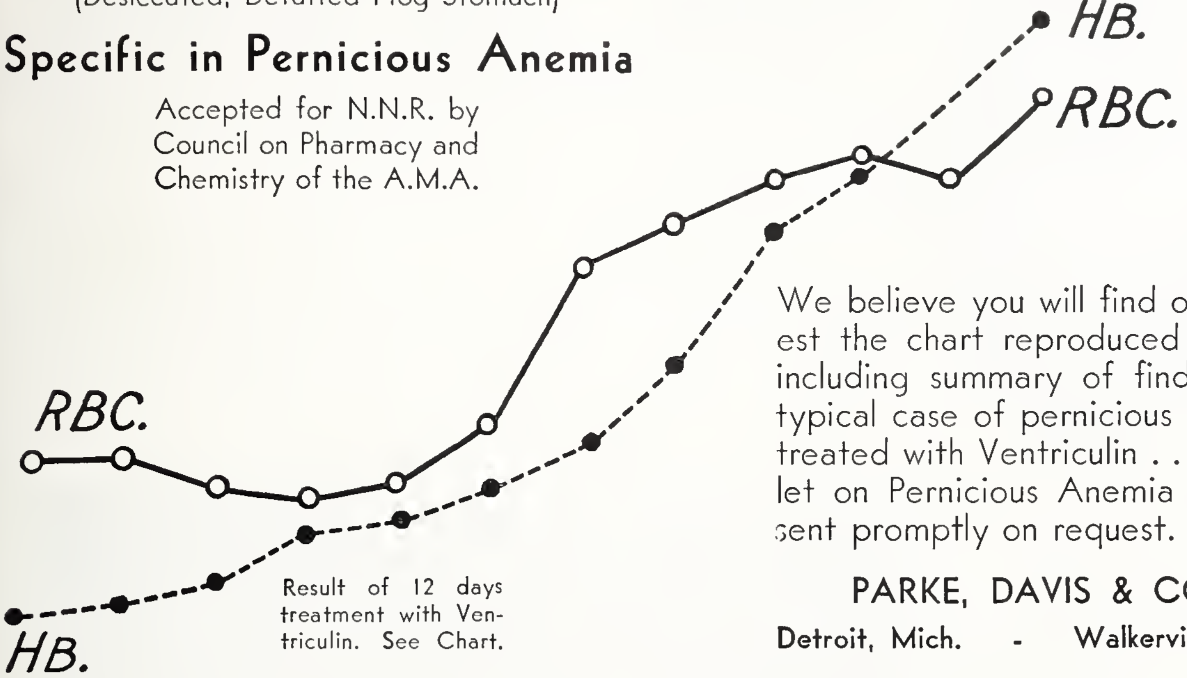

Result of 12 days treatment with Ventriculin. See Chart.

We believe you will find of interest the chart reproduced below, including summary of findings in typical case of pernicious anemia treated with Ventriculin . . . Booklet on Pernicious Anemia will be sent promptly on request.

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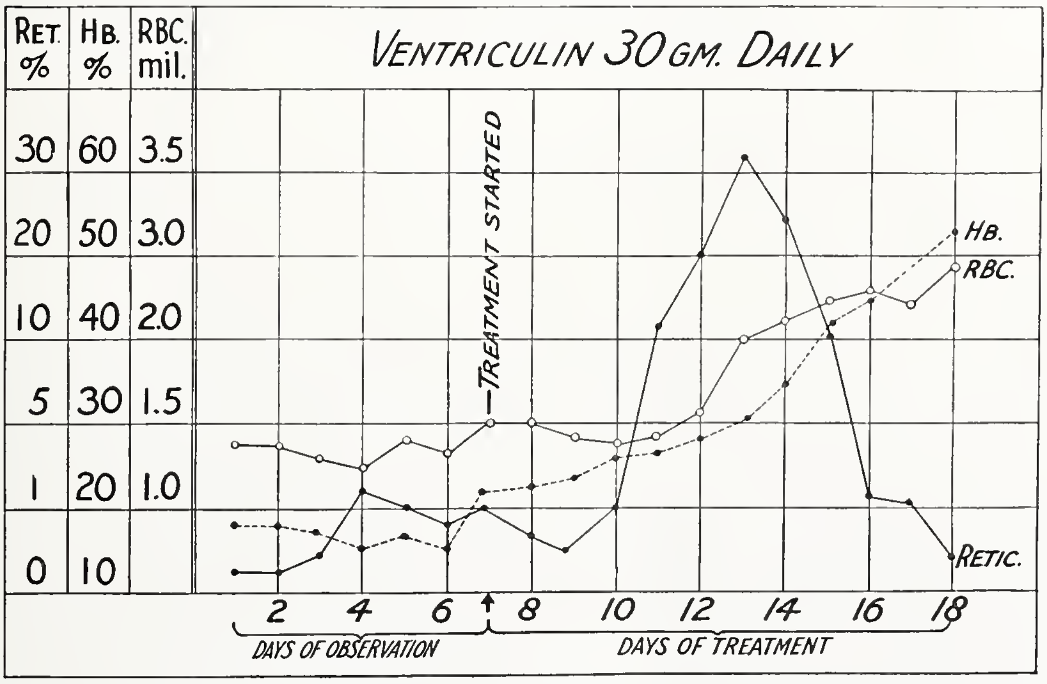

DIAGNOSIS. Pernicious anemia.

INITIAL BLOOD COUNT: Red blood cells 1.5 million per cu. mm.; Hemoglobin (Newcomer) 21 per cent; Reticulocytes 1.0 per cent.

TREATMENT. Ventriculin 30 Gm. daily.

PHASE OF REMISSION. On sixth day of treatment: RBC 2.0 million; Hemoglobin (Newcomer) 30 per cent; Reticulocytes 32.0 per cent (calculated rise for 1.5 million red blood cells at beginning of treatment = 22.3 per cent, exceeding expected rise by 9.7 per cent).

PROGRESS REPORT. On the twelfth day after Ventriculin was begun the following blood count was recorded: RBC 2.9 million; Hemoglobin 52 per cent; Reticulocytes 0.4 per cent. (Expected weekly increase = 500,000 red blood cells per cu. mm. Actual increase in this patient = 700,000 red blood cells per cu. mm.).

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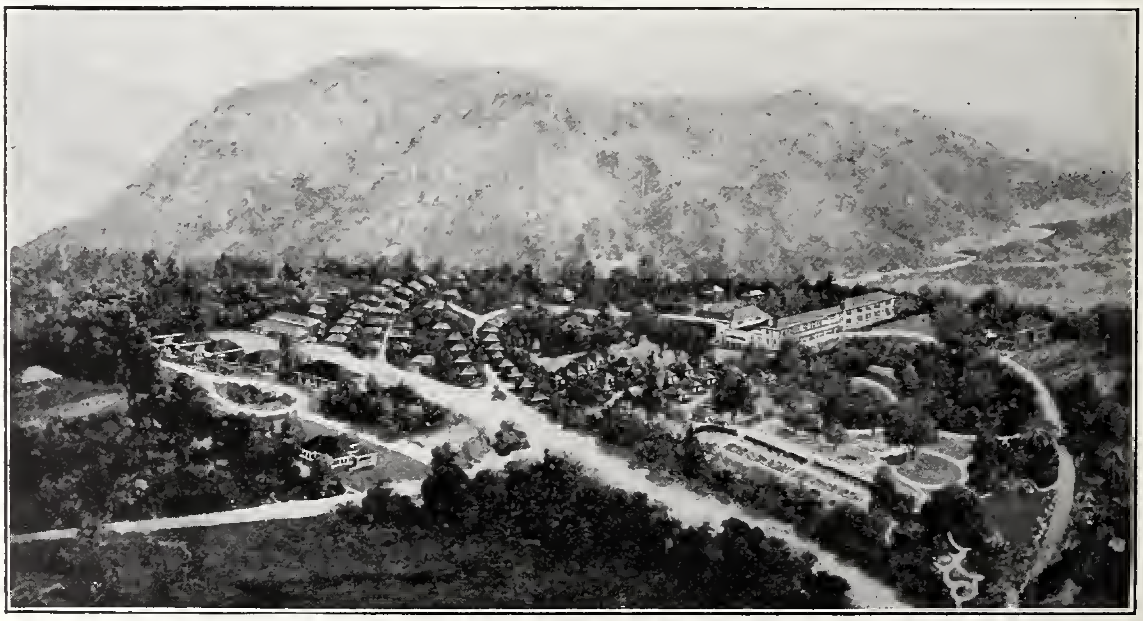

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Excerpts from American Medical Association Essentials for an Approved Clinical Laboratory

DEFINITION

" * * A clinical pathologic laboratory is an institution organized for the practical application of one or more of the fundamental sciences by the use of specialized apparatus, equipment and methods, for for the purpose of ascertaining the presence, nature, source and progress of disease in the human body."*

"Only those clinical laboratories in which the space, equipment, finances, management, personnel and records are such as will insure honest, efficient and accurate work may expect to be listed as approved."

"The housing and equipment should be sufficient to permit all essential technical procedures to be properly carried out."

THE DIRECTOR

"The director of an approved clinical laboratory should be a graduate of an acceptable college or university of recognized standing, indicating proper educational attainments. He shall have specialized in clinical pathology, bacteriology, pathology, chemistry or other allied subjects, for at least three years. He must be a man of good standing in his profession."

"The director shall be on full time, or have definite hours of attendance, devoting the major part of his time to the supervision of the laboratory work."

"The director may make diagnoses only when he is a licensed graduate of medicine, has specialized in clinical pathology for at least three years, is reasonably familiar with the manifestation of disease in the patient, and knows laboratory work sufficiently well to direct and supervise reports."

"The director may have assistants, responsible to him. All their reports, bacteriologic, hematologic, biochemical, serologic and pathologic should be made to the director."

RECORDS

"Indexed records of all examinations should be kept. Every specimen submitted to the laboratory should have appended pertinent clinical data."

PUBLICITY

"Publicity of an approved laboratory should be directed only to physicians either through bulletins or through recognized technical journals, and should be limited to statements of fact, as the name, address, telephone number, names and titles of the director, and other responsible personnel, fields of work covered, office hours, directions for sending specimens, etc., and should not contain misleading statements. Only the names of those rendering regular service to the laboratory should appear on letterheads or other form of publicity."

FEES

" * * There should be no dividing of fees or rebating between the laboratory or its director and any physician, corporate body or group. * * *"*

The following laboratories in California are among those approved by the Council on Medical Education and Hospitals of the American Medical Association:

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Dr. Marion H. Lippman's Laboratory, Butler Building, 135 Stockton Street, San Francisco.

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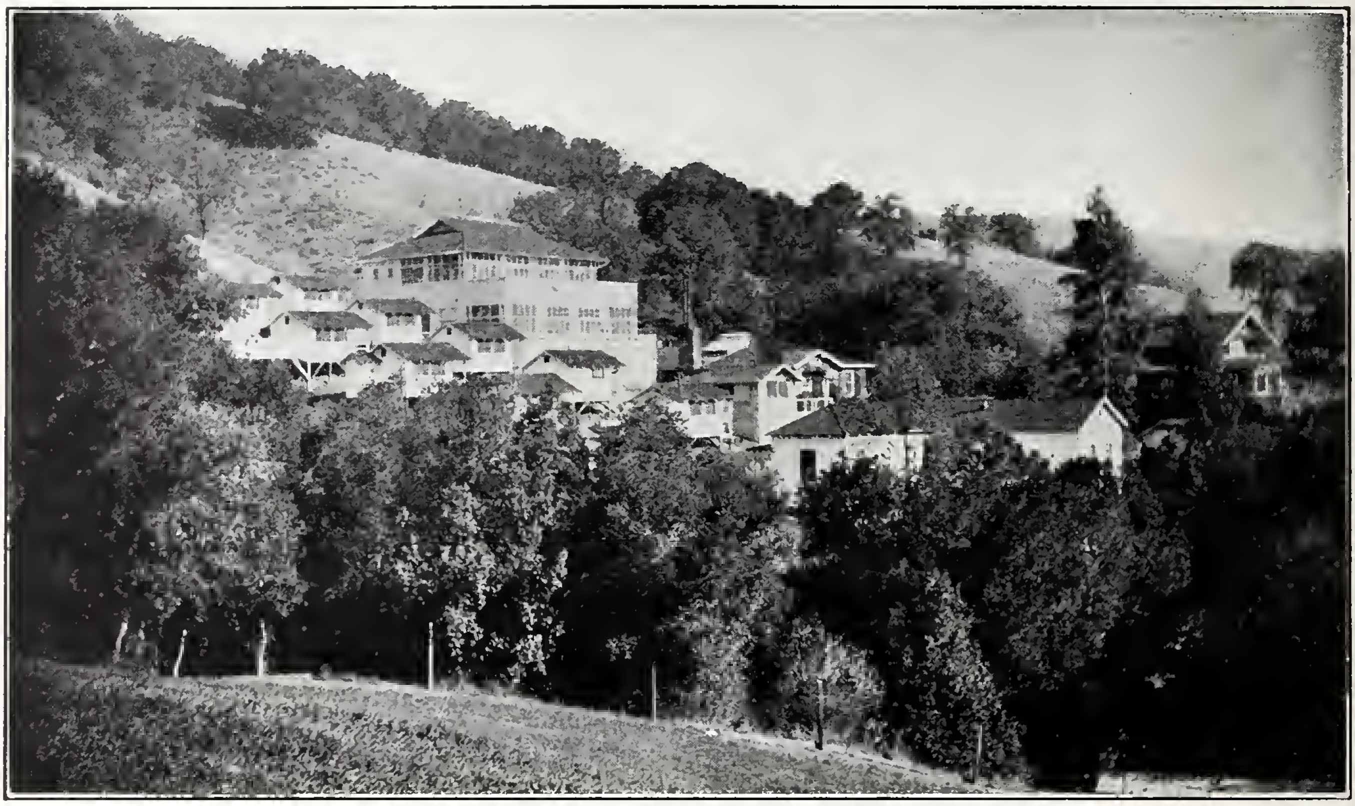

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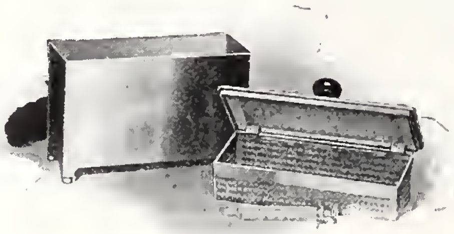

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An Advertising Statement

HAY FEVER, as it occurs throughout the United States, is actually *perennial* rather than *seasonal,* in character.

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But, nevertheless, hay fever in the Northern States at least, is in fact seasonal in character and of three types, viz.:

TREE HAY FEVER—*March, April and May*
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WEED HAY FEVER — *August to Frost*

And this last, the late summer type, is usually the most serious and difficult to treat as partly due to the greater diversity of late summer pollens as regionally dispersed.

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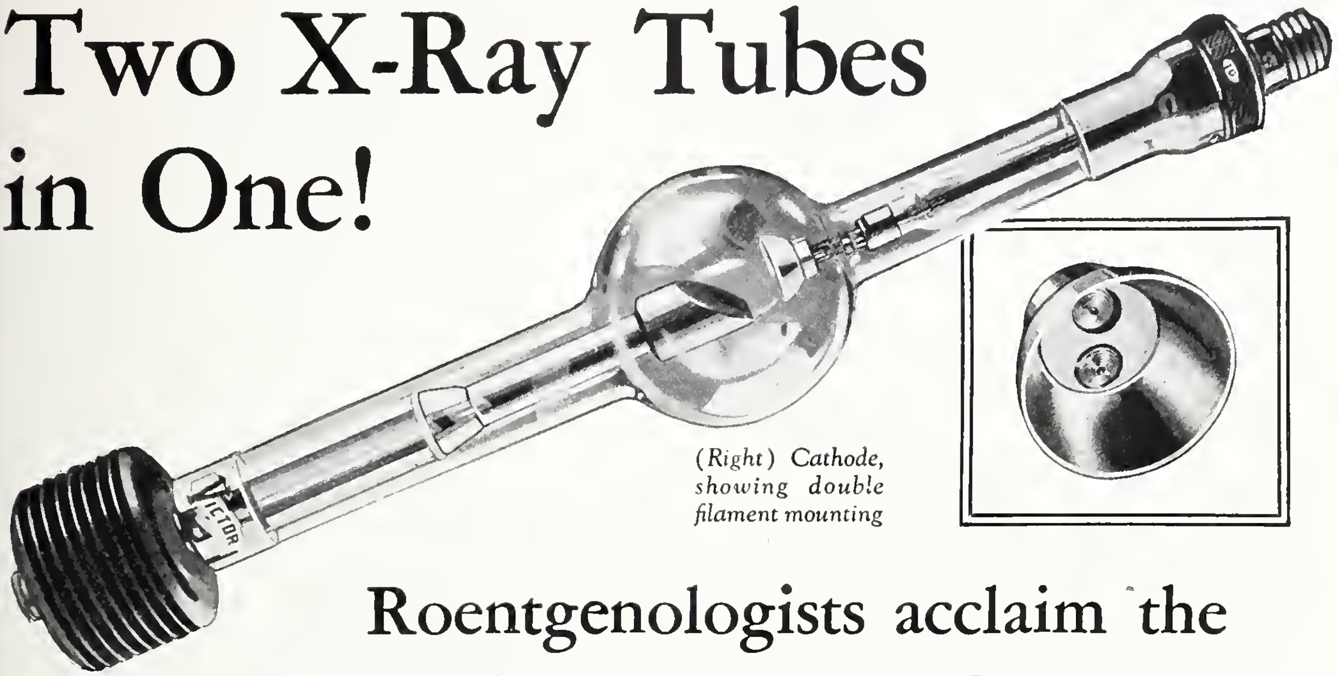

(Right) Cathode, showing double filament mounting

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DESCRIBED in the simplest terms, the Double Focus Coolidge Tube is, as its name implies, one tube in which either of its two focal spots is instantly available.

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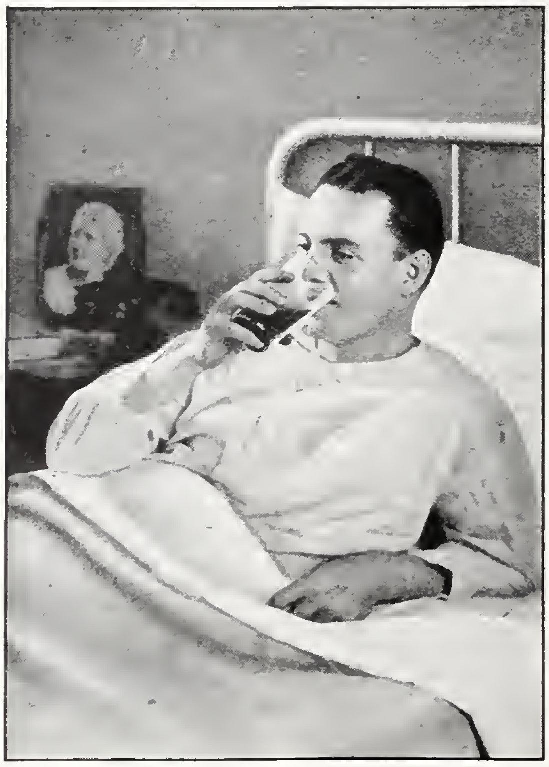

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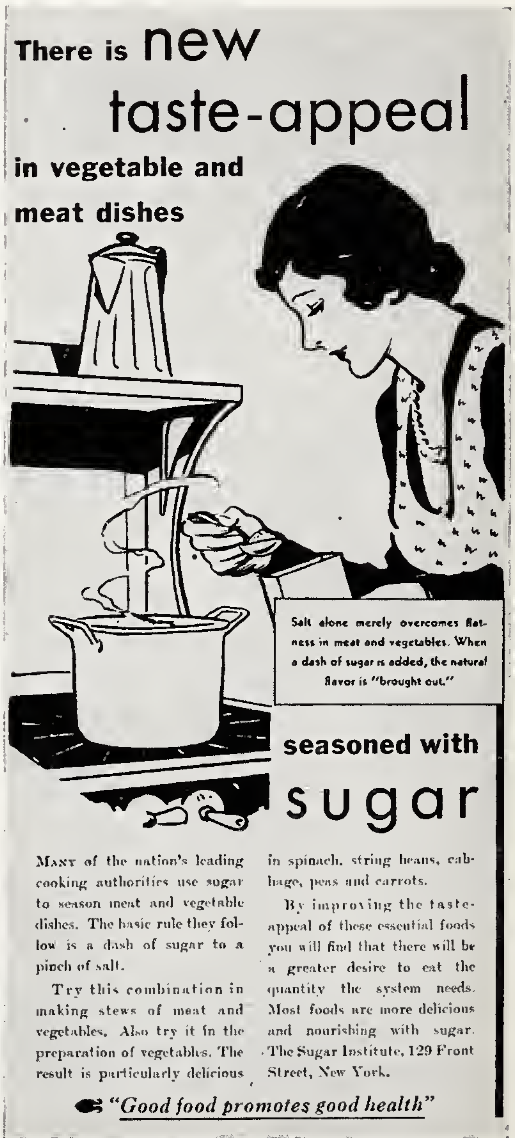

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TRUTH ABOUT MEDICINES

(Continued from Page 34)

euphora or artificial happiness. The addict finds withdrawal accompanied by exceedingly unpleasant symptoms and tends to succumb again. Apparently it is possible for an experienced physician to carry an addict through the withdrawal period with relatively little distress. The importance of narcotic preparations should not be underestimated. Nevertheless there exist in medicine innumerable occasions when one or more of the relatively non-habit-forming sedatives, narcotics, hypnotics, and analgesics may be employed to substitute for an opium derivative. A series of articles is to be published in an effort to indicate the relatively few instances demanding the administration of opium or cocain derivatives and the many available substitutes. It is estimated that under 25 per cent of narcotic addiction results from prescriptions by physicians in cases in which such prescribing may not have been absolutely necessary. The physician must try to limit his prescribing of narcotics absolutely to those situations where they are indispensable. The medical use of narcotics in the United States appears to surpass that of any other nation. Efforts are being made to limit the prescribing of narcotics to those instances where their use is indispensable.—*Journal of the American Medical Association,* March 14, 1931, p. 862.

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(Continued from Page 47)

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TRUTH ABOUT MEDICINES

(Continued from Page 45)

fraudulent claims contained on the trade package. However, Mr. Bartlett has apparently continued to make equally false and fraudulent claims in such advertising as does not go with the trade package. As W. H. Y. was sold through the United States mails, this brought Mr. Bartlett in conflict with the postal authorities, who have declared the exploitation of W. H. Y. fraudulent and debarred it from the mails.—*Journal of the American Medical Association,* March 21, 1931, p. 967.

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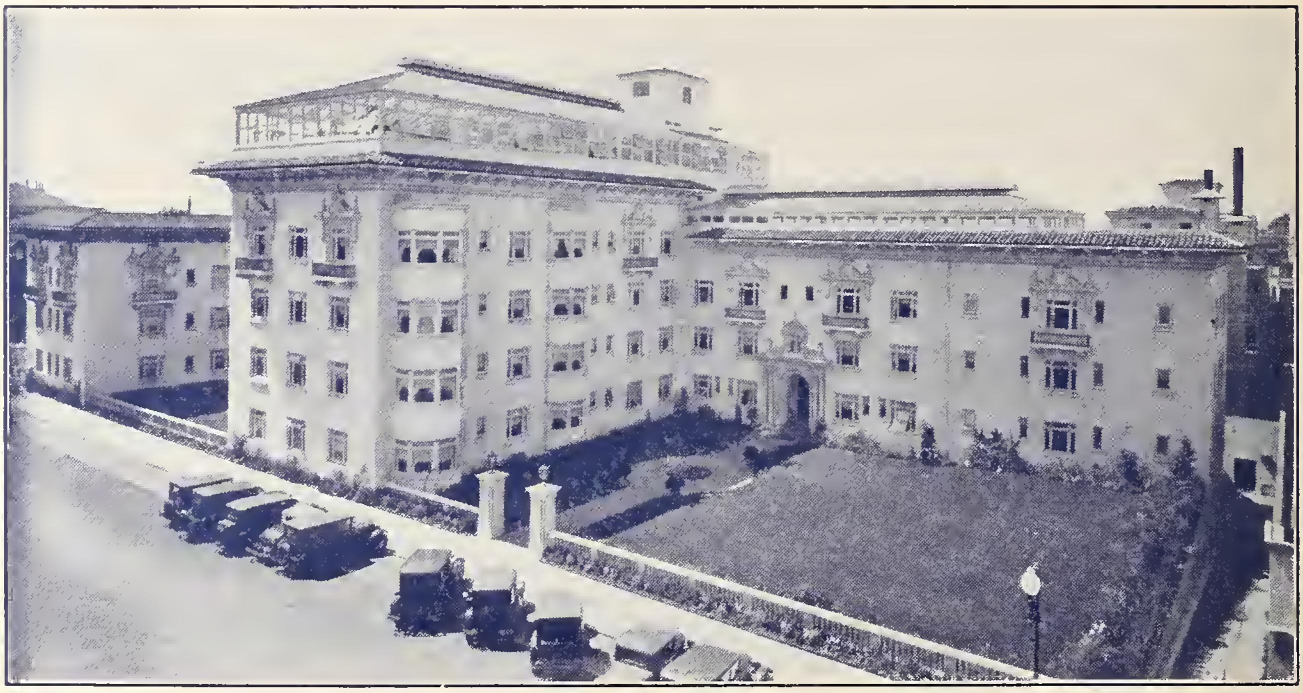

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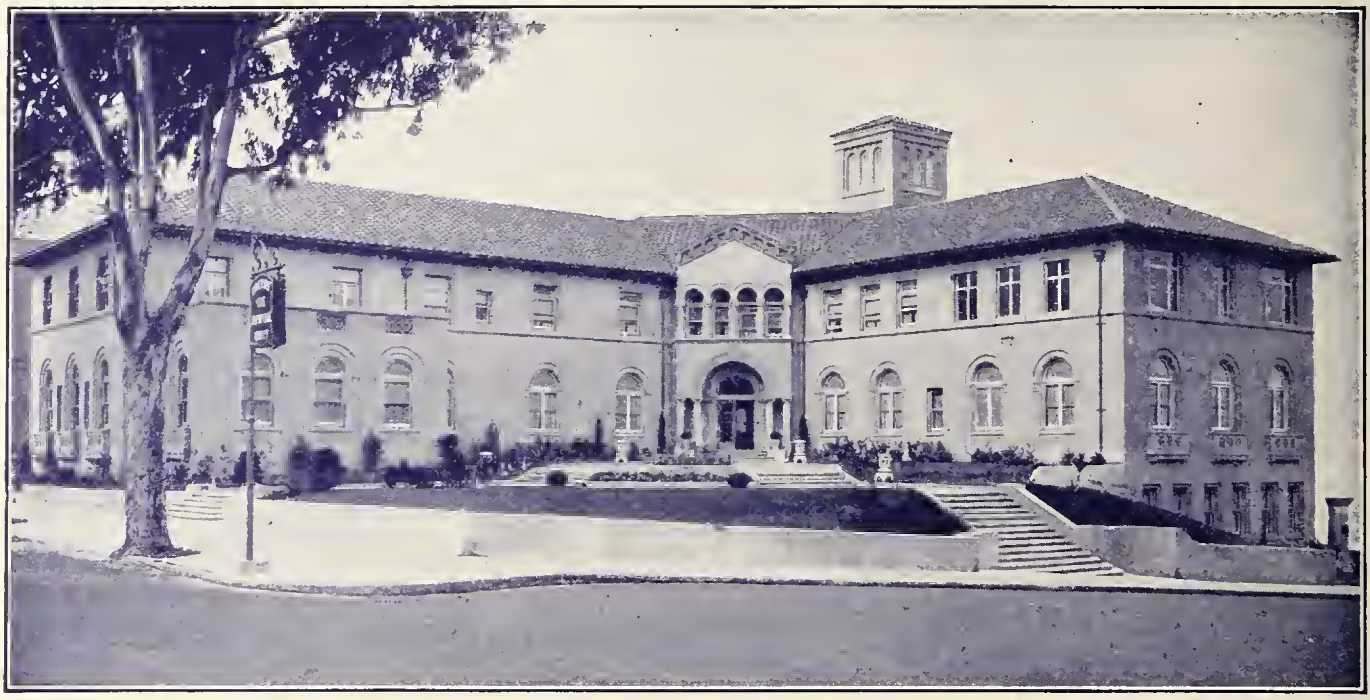

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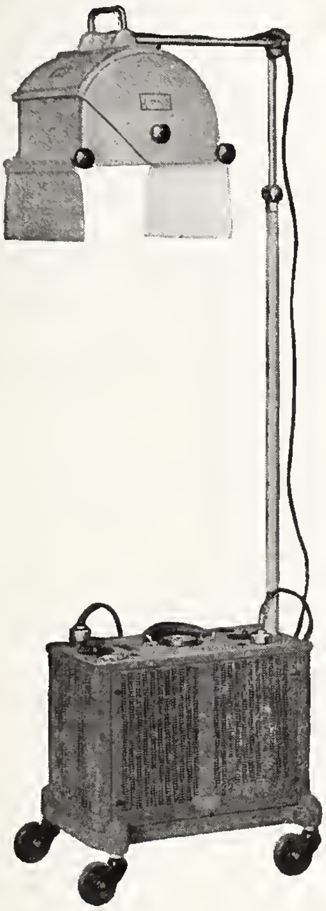

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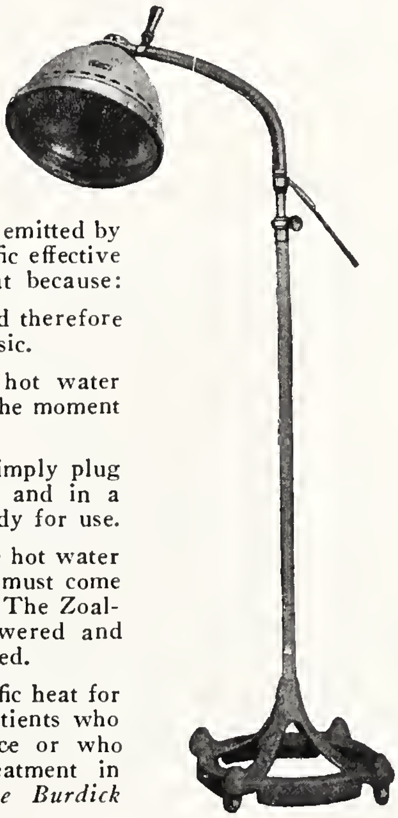

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Place of next meeting, Ely, September, 1931.

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Place of next meeting, Salt Lake City, September 9-11, 1931.

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The institutions here listed have announcements in this issue of California and Western Medicine

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PARK SANITARIUM
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1500 Page Street, San Francisco, Calif.

POTTENGER SANATORIUM AND CLINIC
For the Treatment of Tuberculosis
Monrovia, Calif.

SAINT FRANCIS HOSPITAL
Limited General Hospital
Bush and Hyde Streets, San Francisco

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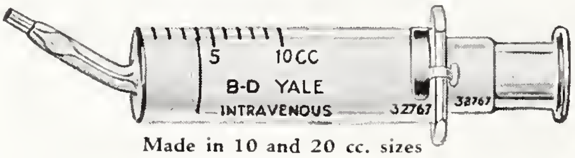

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Surgery—Its Principles and Practice. For Students and Practitioners. By Astley Paston Cooper Ashhurst, A. B., M. D., F. A. C. S., Professor of Clinical Surgery in the University of Pennsylvania; Surgeon to the Episcopal Hospital and to the Philadelphia Orthopedic Hospital and Infirmary for Nervous Diseases. Fourth edition, thoroughly revised. Cloth. Pp. 1189, with 15 colored plates and 1063 illustrations in the text, mostly original. Price, $10 net. Philadelphia: Lea & Febiger, 1931.

The International Medical Annual. A Year Book of Treatment and Practitioner's Index. Edited by Carey F. Coombs. M. D., and A. Bendle Short, M. D. Forty-ninth year. Cloth. Pp. 551, illustrated. Price, $6 net. New York: William Wood & Company, 1931.

Will the White Collar Turn Red? By Warren M. Horner. Cloth. Pp. 171. Price, $2. Los Angeles: Watson Publishing Company, 1931.

Medical Administration of Teaching Hospitals. By Emmet B. Bay, M. D. Cloth. Pp. 136. Price, $2. Chicago: The University of Chicago Press, 1931.

United States Naval Medical Bulletin. Published quarterly for the information of the medical department of the navy. Vol. XXIX, No. 2. Issued by the Bureau of Medicine and Surgery, Navy Department, Division of Planning and Publications, Captain W. Chambers, Medical Corps, United States Navy, in charge. Edited by Lieutenant Commander Robert P. Parsons, Medical Corps, United States Navy. Paper. Pp. 356. Washington: United States Government Printing Office, 1931.

The Renal Lesion in Bright's Disease. By Thomas Addis, M. D., Professor of Medicine, Stanford University, and Jean Oliver, M. D., Professor of Pathology, Long Island College of Medicine; formerly professor of pathology, Stanford University. Cloth. Pp. 650, with 170

(Continued on Page 14)

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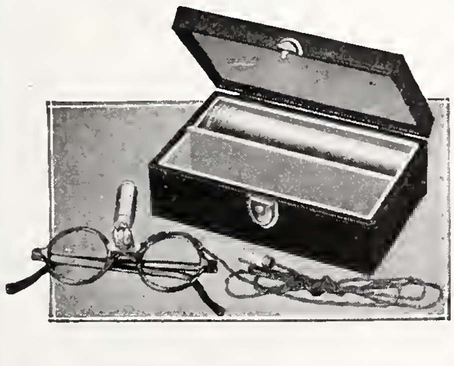

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BOOKS RECEIVED

(Continued from Page 11)

full-page plates, two in color, twenty-one text illustrations, and one folding table. Price, $16 net. New York: Paul B. Hoeber, Inc., 1931.

Heart Disease. By Paul Dudley White, M. D., Instructor in Medicine, Harvard Medical School; Physician, Massachusetts General Hospital, Boston. Cloth. Pp. 931, illustrated. Price, $12. New York: The Macmillan Company, 1931.

BOOK REVIEWS

The Pathology of Diabetes Mellitus. By Shields Warren, with a foreword by Elliott P. Joslin. Pp. 212. Illustrated. Philadelphia: Lea & Febiger, 1930. Price, $3.75.

Doctor Warren has written a monograph on the pathology of diabetes mellitus which can be compared to no other book on this subject with which the reviewer is acquainted. He has utilized material from several widely separated sources and has taken advantage of the opportunity to compare the pathological anatomy of diabetes mellitus as it existed in the Naunyn era and the Allen era with that found in the Banting epoch in cases treated with insulin. Moreover, he emphasizes the fact that the pathologist no longer confines his interest in the disease to the pancreatic lesions, but concerns himself also with the tissue changes secondary to the disease.

It is impossible to describe adequately in a few words the excellent manner in which the author has treated such subjects as the pancreas in diabetes mellitus, pathological evidences of abnormal fat metabolism, and arteriosclerosis and gangrene. Many other chapters are devoted to descriptions of the pathological anatomy, both gross and microscopic, found in various structures resulting from the ravages of diabetes mellitus. Finally, there is a discussion of the various theories concerning the etiology of the disease. The entire subject is adequately illustrated by well-chosen microphotographs.

To all who are interested in diabetes mellitus this book should prove of tremendous interest since it correlates a vast literature with the observations Shields Warren has made on three hundred autopsied cases as well as an equal number of biopsies. H. C. S.

(Continued on Page 18)

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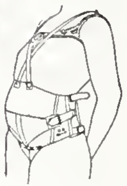

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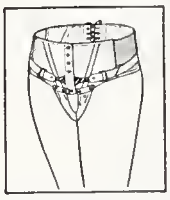

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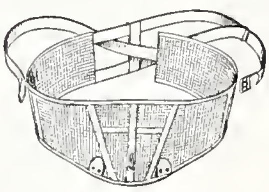

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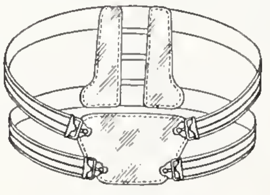

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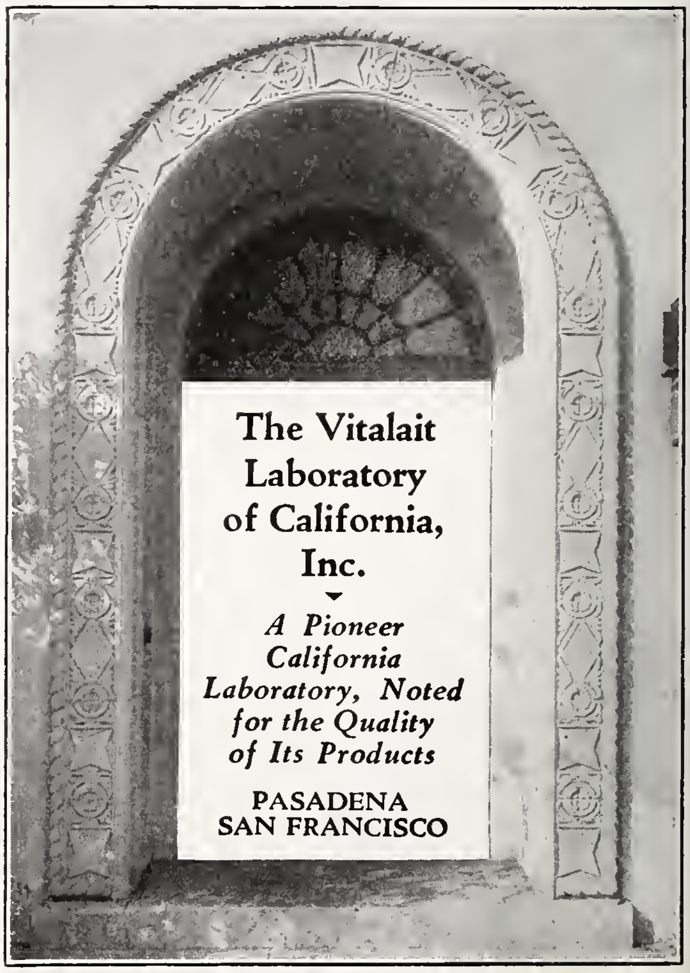

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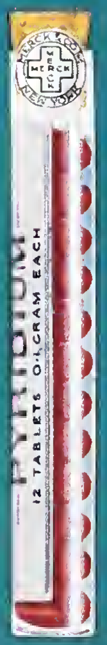
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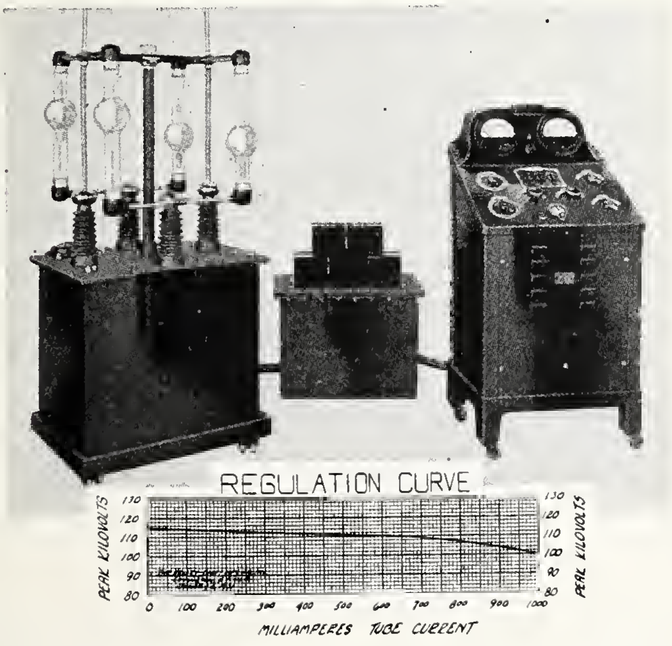
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BOOK REVIEWS

(Continued from Page 14)

A Treatise on Orthopedic Surgery. By Royal Whitman. Ninth edition. Pp. 1085. Illustrated. Philadelphia: Lea & Febiger, 1930.

This treatise, now in its ninth edition, is as complete as any single volume book published. There is no textbook on orthopedic surgery in the English language that has come as close as Whitman's to being a reference book on the subject.

It is very well illustrated (an important point) and conveniently arranged as to headings, chapters, and paragraphs.

Many books show more of the author's hobbies and individual methods, but Doctor Whitman includes most of the practical methods of treatment, with a fair estimate of their place and importance.

The chapter on tuberculosis of the bones and joints is excellent. Doctor Whitman does not lead the reader to look upon surgery as the primary method of treatment, forgetting meanwhile that the patient is suffering from a chronic systemic disease.

This book deserves the praise which was justly given to all the preceding editions. Its chief value lies in the fact that it is an excellent and very comprehensive reference book. R. L. D.

A Primer For Diabetic Patients. A brief outline of the treatment of diabetes with diet and insulin, including directions and charts for the use of physicians in planning diet prescriptions. By Russell M. Wilder. Fourth edition. Pp. 138. Illustrated. Philadelphia and London: W. B. Saunders Company, 1930. Price, $1.50.

The fact that it has been necessary to issue a fourth edition of this manual speaks for its excellence. It is, however, not written for the unassisted patient for, as Wilder states, "No patient with a disease as serious as diabetes should be encouraged to attempt self-treatment."

This edition follows in general the outline of most diabetic manuals in that the disease is explained and the author's concepts of treatment are given. Of special interest are the chapters devoted to the complications of diabetes and their treatment, including diabetic acidosis and coma and gangrene and skin infections. There is also a section written for the physician explaining in detail the planning of diet prescriptions for adults, children, and suggestions for use with illiterate patients.

(Continued on Page 26)

CORRECTING AN ERROR

In the Journal of the A. M A., March 28th, 1931, page 30, we inadvertently stated the iron content of Mead's Cereal to be 68 milligrams per hundred grams. (This figure was confused with .0068 gms. iron per ounce.)

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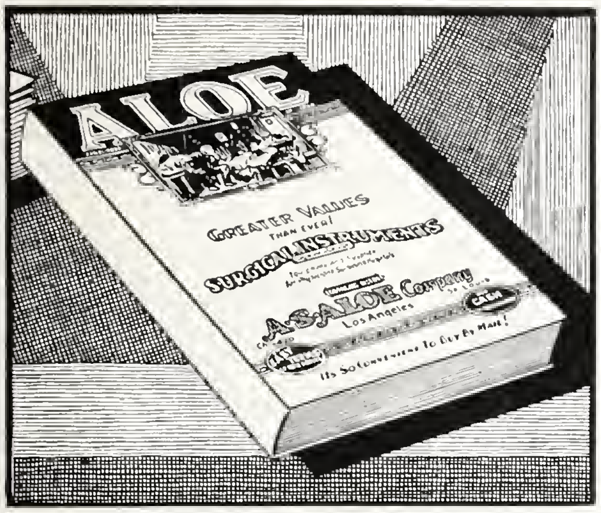
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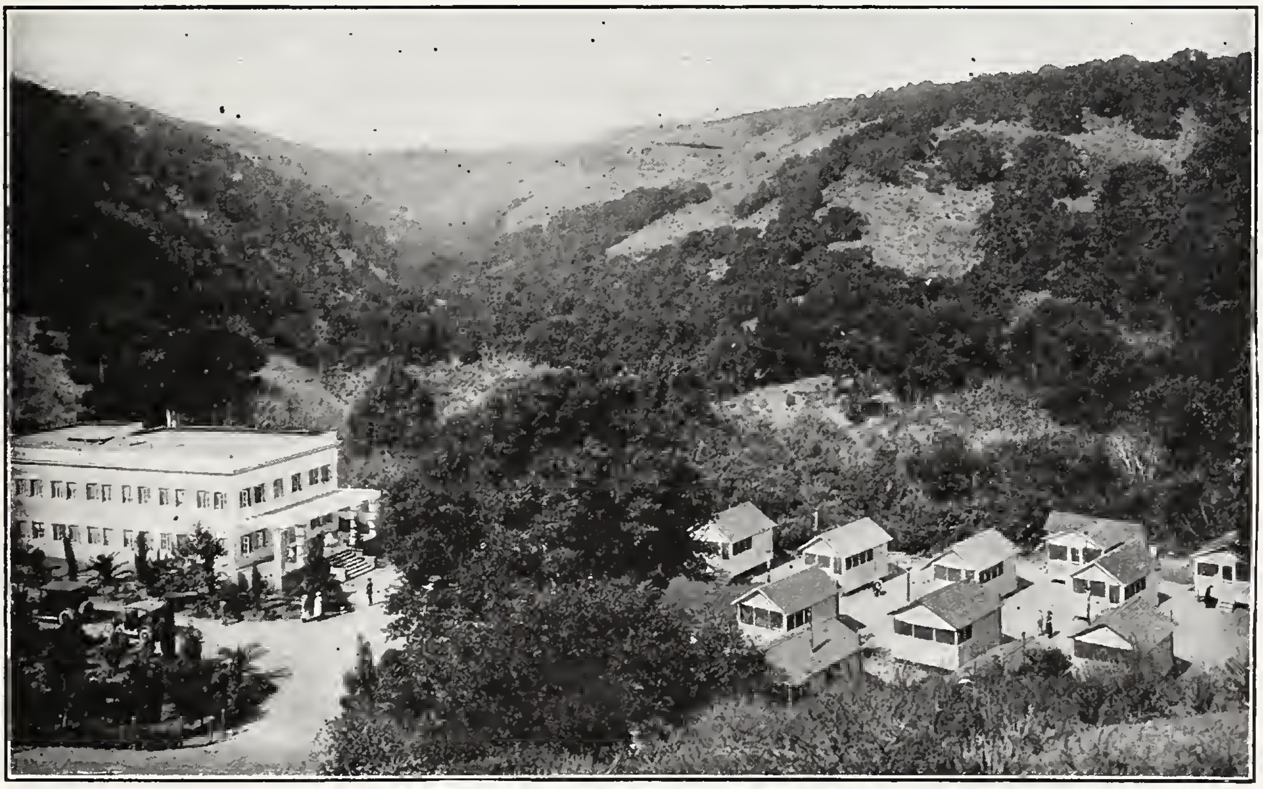

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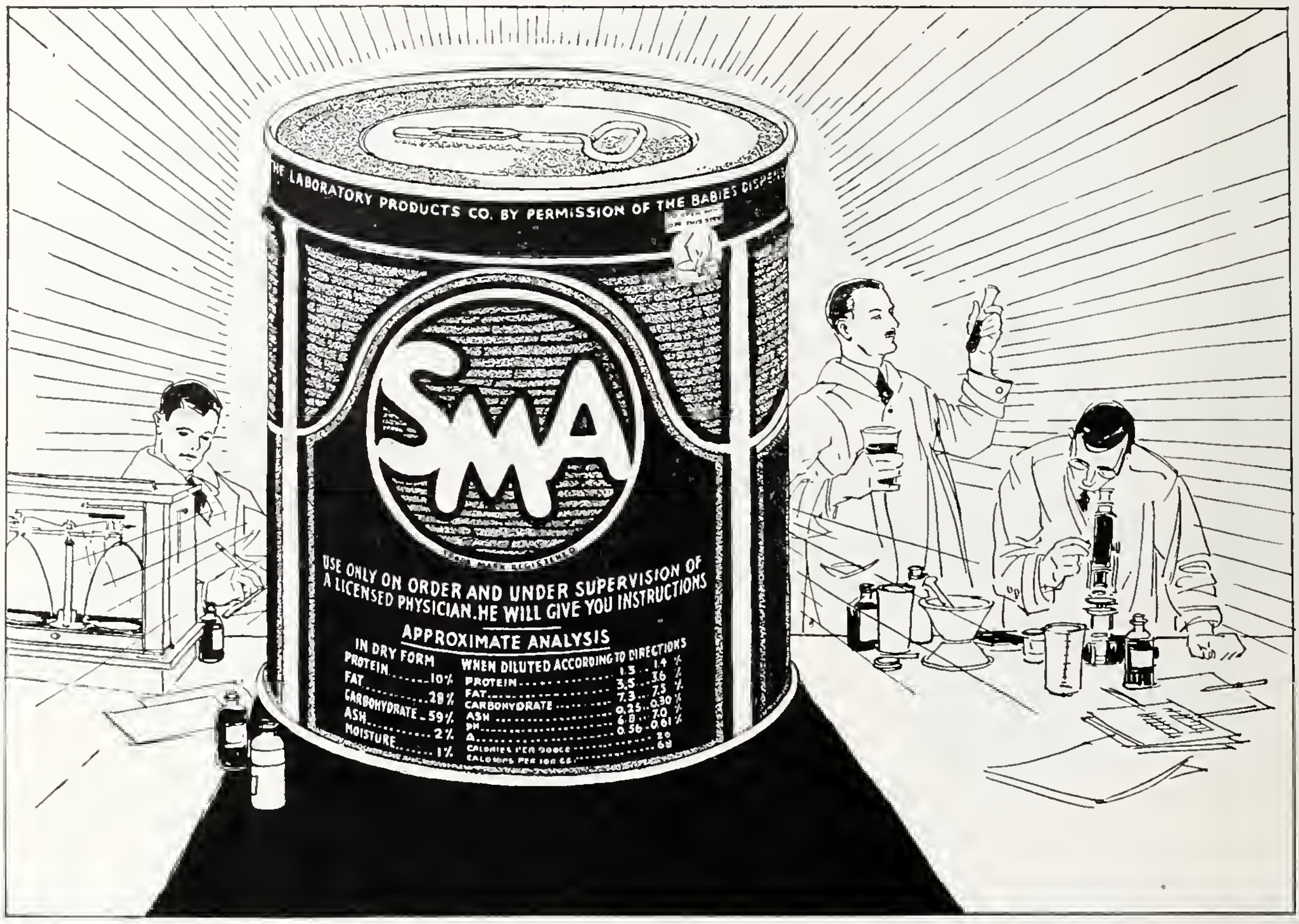
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BOOK REVIEWS

(Continued from Page 18)

Sample menus are given in illustration of the author's ideas. Finally, there are tables of food values, food equivalents, etc.

The book is well written and the use of medical terminology has been largely avoided.

Although the author continues to advocate the use of high fat diets, as well as the use of sodium bicarbonate in the treatment of diabetic acidosis and coma, this manual should prove to be of great help to the diabetic patient and his physician.
H. C. S.

A Textbook of Pathology. Edited by E. T. Bell. Pp. 627. Illustrated. Philadelphia: Lea & Febiger, 1930. Price, $8.00.

Bell's textbook of pathology offers a brief, yet comprehensive presentation of the essential facts of pathology. For several years there has been a need for such a text. The standard nomenclature, based on etiology and pathology, has been used throughout. Well-selected references, not too many in number, accompany the individual chapters. The masterly manner of presenting the facts and omitting much burdensome, disputed theory is an attractive feature. It is so brief, however, that its use in the classroom should be supplemented by other reading.
D. A. W.

Chronic Arthritis and Rheumatoid Affections With Recovery Record. By Bernard Langdon Wyatt with the collaboration of Louis I. Dublin. Pp. 166. New York: William Wood & Company, 1930. Price, $2.50.

Some books never should have been written. This is one that falls in that category. Why?

1. It is full of inaccuracies.
2. The author speaks of many unknown things as if they existed on a basis of fact.
3. He consequently makes many statements that must be false.

Enough. The book is misleading in almost everything except the direction in which to send arthritic patients—to Arizona.
A. L. F.

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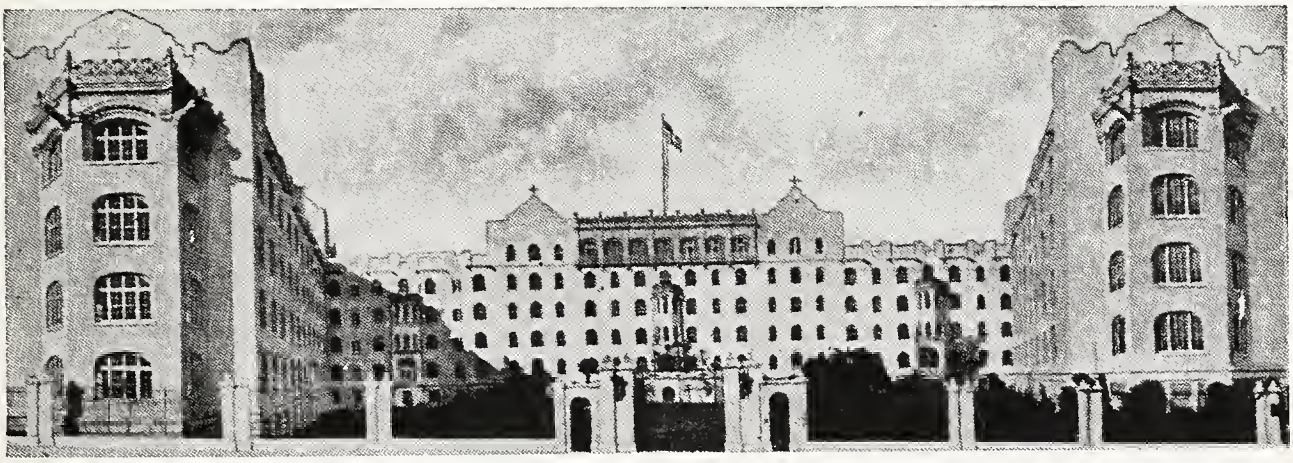

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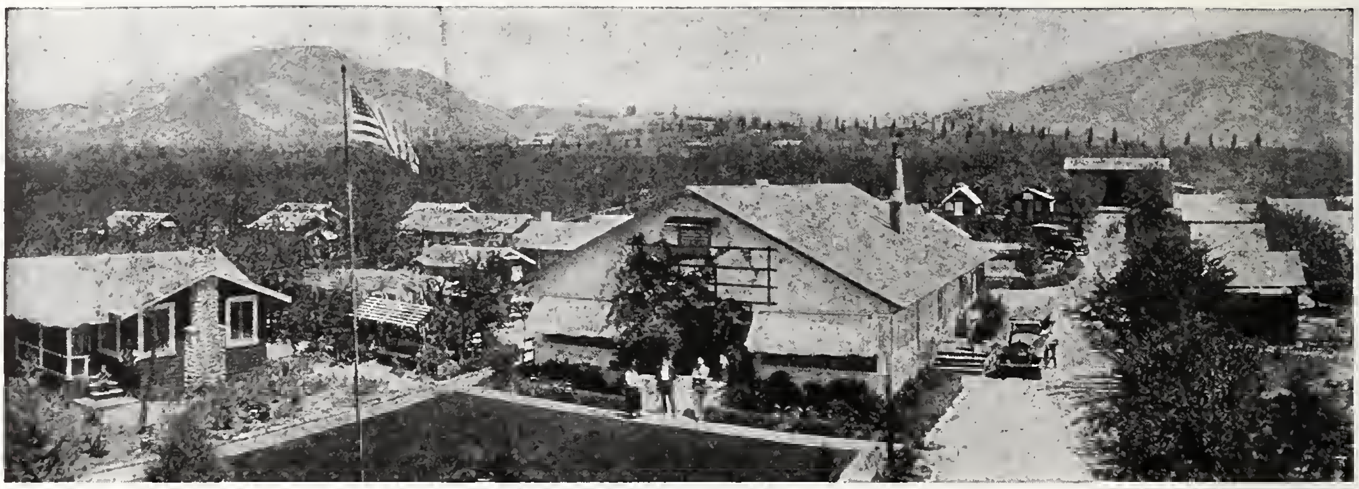

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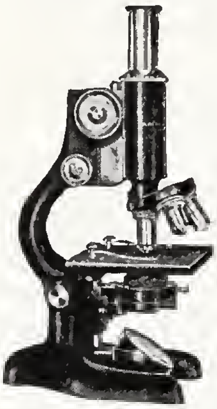

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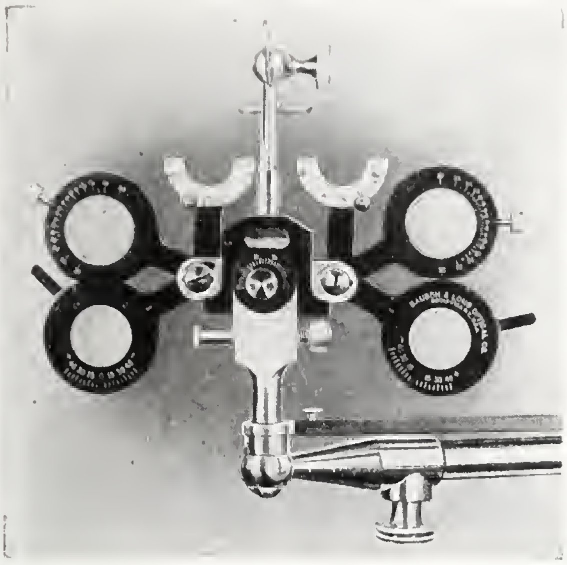

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(Continued on Page 34)

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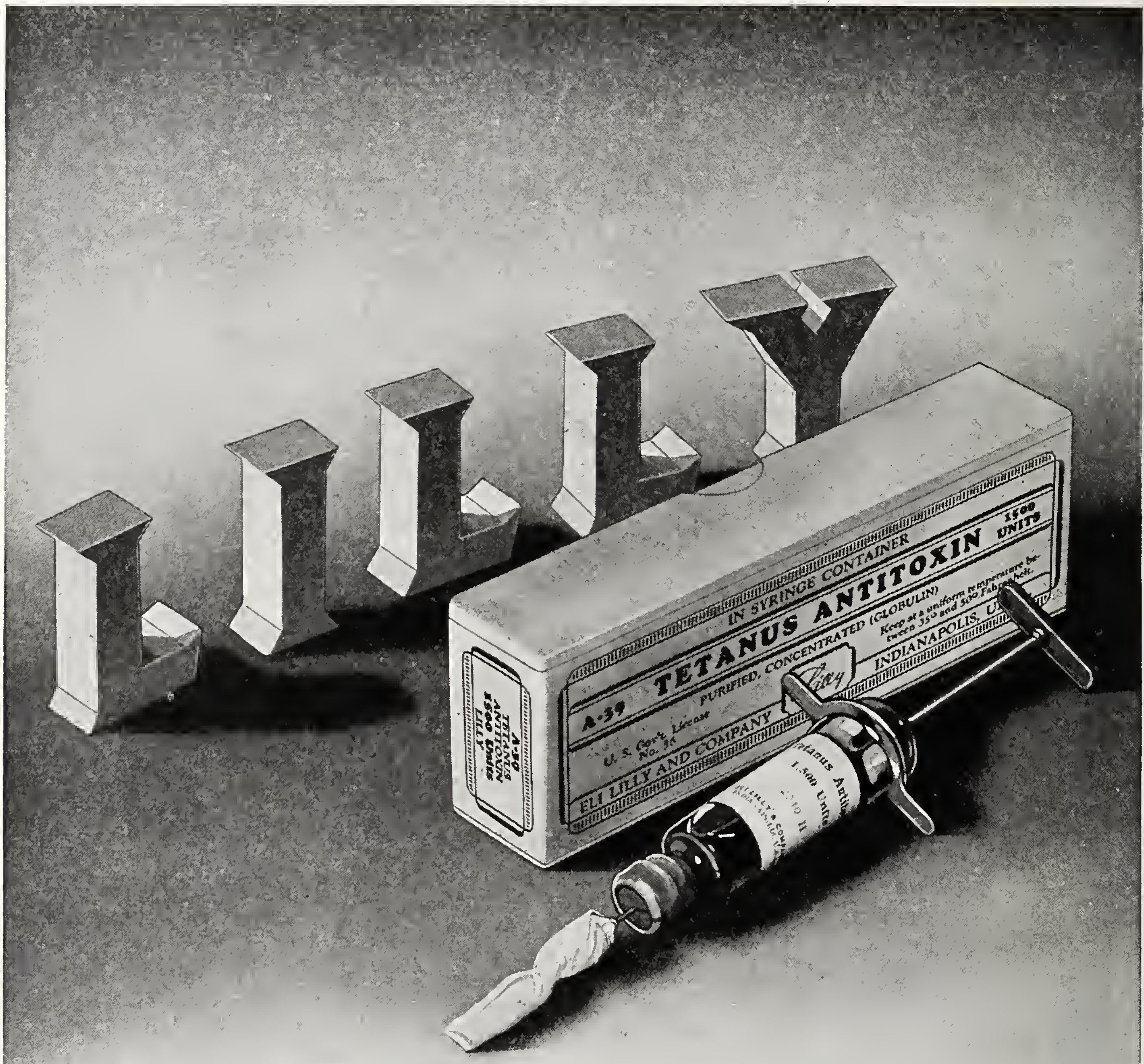
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VOLUME XXXIV JUNE, 1931 No. 6

NEPHRITIS AND NEPHROSIS[*]

By E. T. Bell, M. D.
Minneapolis, Minnesota

The renal diseases that are commonly called nephritis may be divided into four major groups as shown in the following classification.[†]

- I. Nephroses.
  - A. Chemical—corrosive, sublimate, etc.
  - B. Infections (febrile albuminuria).
  - C. Eclamptic.
  - D. Amyloid.
- II. Glomerulonephritis.
  - A. Focal.
    - a. Embolic.
    - b. Benign hemorrhagic.
  - B. Diffuse.
    - a. Acute.
    - b. Subacute.
    - c. Chronic.
      - 1. With contracted kidney.
      - 2. With noncontracted kidney (lipoid nephrosis).
- III. Arteriosclerotic kidney (primary hypertension).
  - A. Without renal insufficiency, 90 per cent.
  - B. With renal insufficiency, 10 per cent.
- IV. Exudative interstitial nephritis.
  - A. Acute interstitial nephritis.
  - B. Pyelonephritis.
    - a. Descending.
    - b. Ascending.

This classification is based on etiology and pathologic anatomy, but distinct clinical pictures are associated with each type. After thorough study a clinical diagnosis may be made with a high degree of accuracy.

I. THE NEPHROSES

This group includes renal diseases in which the lesions are supposed to be chiefly degenerative in character. The different subgroups are entirely unrelated clinically and from the standpoint of etiology. There are also striking anatomical differences and it is doubtful if anything is gained by grouping these unrelated diseases under one heading.

When one speaks of nephrosis without qualification he usually refers to lipoid nephrosis. For reasons to be given presently I have grouped this form with glomerulonephritis.

A. Nephrosis due to chemical poisons. The corrosive sublimate kidney is practically the only lesion of this type that one encounters clinically. There is oliguria which progresses rapidly to anuria in fatal cases. The urine contains albumin and casts. Edema is absent except for a slight puffiness of the face in some instances. The blood urea nitrogen increases rapidly and death results from uremia. There is often moderate hypertension during the stage of anuria.

The kidneys are cloudy and swollen. Microscopically one finds degeneration and necrosis of the convoluted tubules. The necrotic tubules may become calcified. The glomeruli show no definite changes, but they are evidently severely injured since they cannot excrete urine.

B. Nephrosis due to infections. In all severe infectious diseases and infections albumin and casts are commonly found in the urine. This condition is often called febrile albuminuria. Clinically it is not a renal disease but an albuminuria secondary to some infectious process. There is no edema and no hypertension. The outcome depends upon the major illness. In rare instances the renal injury is severe enough to cause some renal insufficiency.

At postmortem the kidneys show cloudy swelling. There are degenerative changes in the convoluted tubules, but necrosis is very rare. The glomeruli are usually normal, but sometimes they show a moderate increase of endothelial cells with partial obstruction of the capillary circulation. The lesion is not entirely degenerative in character. In the vast majority of instances the albuminuria disappears as soon as the infection subsides, but occasionally the lesion progresses to a clinical acute glomerulonephritis.

C. The nephrosis of eclampsia. Eclampsia is characterized by hypertension, edema and albuminuria. Renal function is usually good. Death occurs from some form of toxemia, very rarely from uremia.

The kidneys are greatly swollen and very cloudy. The cells of the convoluted tubules are enlarged and often filled with lipoid droplets. The glomeruli are commonly described as normal, but special stains show a marked narrowing of the glomerular capillaries due largely to an increased thickness of the capillary basement membrane. It is not known whether the narrowing of the capillaries is a cause or an effect of the hypertension. It is clear that the eclamptic kidney is not a simple tubular degeneration. The glomerular lesions are important and prominent and probably represent an inflammatory reaction.

D. The amyloid kidney. Moderate deposits of amyloid in the kidneys produce no disturbance other than a slight albuminuria, but excessive deposits produce clinical renal disease characterized by albuminuria and edema. When the disease is far advanced, renal insufficiency develops and this is often accompanied by hypertension.

---

[*] From the department of pathology, University of Minnesota.

[*] Read before the general meeting of the California Medical Association at the sixtieth annual session at San Francisco, April 27-30, 1931.

[†] Consideration of the first two major groups only will be given in this article.

The kidneys are usually very large and pale, but sometimes they are contracted and small. Amyloid is deposited within glomerular capillaries. When all the capillaries are blocked the glomerulus is solid and impermeable to blood and its associated tubule undergoes disuse atrophy. The end result is similar to chronic glomerulonephritis. It is obvious that the amyloid kidney is by no means a simple tubular degeneration.

II. GLOMERULONEPHRITIS

This renal disease is characterized anatomically by proliferation of the capillary endothelium with resultant obstruction of the glomerular capillaries. The clinical course, as well as the subsequent anatomical changes in the kidneys, are dependent upon the degree and extent of the glomerular capillary obstruction.

A. Focal glomerulonephritis. This diagnosis is frequently made clinically to account for a mild or transient albuminuria associated with infection. Since the disease is not fatal, anatomical studies are very meager. It is probable that this clinical picture is usually due to an infectious nephrosis or a mild diffuse glomerulonephritis. Only two anatomic types of focal glomerulonephritis are known.

a. *Focal embolic glomerulonephritis.* In bacterial endocarditis small emboli break off from the soft vegetations on the heart valves and lodge in the glomeruli, where they cause focal inflammatory and necrotic lesions. Clinically the only indication of a renal lesion is hematuria. The renal insufficiency, so often observed in bacterial endocarditis, is due to a diffuse glomerulonephritis.

b. *Benign hemorrhagic nephritis.* In children and young adults an infection, such as tonsillitis, is sometimes followed by hematuria. If both edema and hypertension are absent, this is a benign condition and the hematuria will disappear within a short time. No anatomic studies are available, since the disease is not fatal. However, the renal lesion is probably similar to that found in hematuria with bacteriemia. In this latter condition the blood escapes from open glomerular capillaries. The bleeding capillaries are not permanently damaged since they are not obstructed. Obstructed capillaries do not bleed.

Hematuria associated with either edema or hypertension has a serious significance, since it indicates either glomerulonephritis or primary hypertension with renal involvement.

B. Diffuse glomerulonephritis. In this disease there is more or less capillary obstruction in all the glomeruli, due to proliferation of capillary endothelium, lodgement of leukocytes or thickening of the capillary basement membrane.

a. *Acute glomerulonephritis.* In nearly all instances this lesion is preceded by a recognizable infection such as sore throat, scarlet fever, etc. The characteristic clinical signs are albuminuria and edema, and often hematuria and moderate hypertension. In mild cases the elevation of blood pressure may be slight or absent. The majority of patients recover, but some die of uremia and some pass in the chronic form of the disease.

The kidneys are enlarged and cloudy. Punctate hemorrhages may be seen. The glomeruli are prominent because of their increased size, the absence of erythrocytes, and the great increase of nuclei. The glomerular capillaries are found distended and obstructed chiefly by large endothelial cells. There are a few polymorphonuclear leukocytes in the closed capillaries. Epithelial crescents are often found. The tubules show some hyaline, granular and fatty degeneration, but no necrosis. There is no tubular atrophy.

b. *Subacute glomerulonephritis.* There are gradual transitions from this type to the acute and chronic forms. The term is usually applied to cases that begin acutely and end in uremia after a few months. Albuminuria, edema, and hypertension are prominent. Renal insufficiency develops gradually.

At postmortem the kidneys are large and pale. The glomeruli are uniformly and severely obstructed. There is a marked generalized tubular atrophy. The kidneys have not had sufficient time to undergo contraction.

c. *Chronic glomerulonephritis.*

1. With contracted kidneys. A large majority of cases of chronic glomerulonephritis terminate with uremia and contracted kidneys. A few cases begin with a frank acute glomerulonephritis, but the greater number begin insidiously without a well-defined acute onset. As a rule the patient first consults a physician when the disease is far advanced. The exact duration can seldom be determined, since the time of onset is unknown. Cases of five to ten years' duration are not uncommon, and a few are known to have persisted twenty years. In the earlier stages there is albuminuria with moderate hypertension and edema at times. Renal function is fair until the disease is well advanced. In the later stages all the symptoms become more pronounced. As renal function fails, a secondary anemia develops and there are usually changes in the eyegrounds.

The disease often progresses by exacerbations and remissions, the former often following upper respiratory infections. Death results from uremia.

The kidneys are contracted and their surfaces are pitted. The cortices are narrow and have a yellowish color. Microscopically a large majority of the glomeruli are hyaline and their associated tubules have undergone complete atrophy. The persistent glomeruli are large and show the changes characteristic of the acute stage. The glomerular capillaries are markedly narrowed by swollen endothelial cells, but their lumina are partially permeable. The tubules associated with these glomeruli are large and fatty. The histologic structure shows clearly that the chronic stage develops from the acute.

2. Without contraction of the kidneys. Formerly this disease was called chronic paren-

chymatous nephritis, but in recent years it has been renamed "lipoid nephrosis." Along with the new nomenclature has developed the idea that it is not a primary disease of the kidneys but a general metabolic disorder. Two types of lipoid nephrosis are recognized: the pure type, and the mixed type. The latter type is called by the Germans "nephritis with a nephrotic tendency."

The pure type is characterized clinically by the presence of severe albuminuria, marked edema, hypercholesterolemia, and decrease of plasma proteins, especially albumin. It is further characterized by the absence of hematuria, hypertension, and renal insufficiency. Some cases recover after a prolonged course; others die of infections, especially pneumococcic peritonitis.

The kidneys are large and there are abundant lipoid droplets in the convoluted tubules. It is commonly stated that the glomeruli are normal, but a study of the glomeruli with special stains shows a narrowing and partial occlusion of the glomerular capillaries by swollen endothelial cells and because of thickening of the capillary basement membrane. There is no renal insufficiency and no tubular atrophy because the glomeruli are not completely obstructed.

In the mixed type, which is much more frequent than the pure form, there is present hypertension or some evident decrease of renal function. In all other respects the disease resembles the pure type.

In the mixed type the glomerular lesion is more pronounced and bears a close resemblance to typical glomerulonephritis, but the capillaries are partially permeable.

It seems reasonable, therefore, to interpret lipoid nephrosis as a form of glomerulonephritis in which there is partial capillary occlusion.

University of Minnesota.

A RADIOLOGIST'S DUTY TO HIS SPECIALTY*

By Charles M. Richards, M. D.
San Jose

It is not the intention of your chairman to intrude himself upon the program of this section, nor to appropriate any but a very small portion of the time which should be given to the papers and discussions prepared by the program committee. It would be taking an unfair advantage to exercise my prerogative and present a scientific paper in addition to an already fine program.

In a recent paper before the Radiological Society of North America I took the radiological profession to task for certain dereliction of a duty which is incumbent upon every radiologist who believes that he is engaged in one of the most highly specialized branches of medicine and surgery, equal in dignity, worthiness and value, to any other specialty. It is his duty, then, to make a conscientious resolve to do anything he can, as opportunity presents itself, to raise the dignity of the specialty and to free it from certain stigmata that have trailed its path from its infancy.

Radiology has from the beginning labored under the impression, either implied or expressed, that it is a pursuit that can be engaged in by laymen and professional men, on an equal footing; that the possession of an apparatus and a certain skill in turning out x-ray films are the prime qualifications of one engaged in this work, be he layman, chiropractor, shoe clerk, or a mere member of the medical profession. Our medical laws still imply that the practice of radiology is not the practice of medicine, since they allow the use of the x-ray to go on unhampered in the hands of any person who has the price of an apparatus, putting into such hands one of the most potent agents in all diagnostic and therapeutic procedure, and turning him loose upon the confiding world with a blessing.

A large proportion of the general medical profession conspires to make this impression all the more effective by entrusting their radiological work to these persons, and even accepting diagnoses from them.

Much as I condemn that portion of the medical profession guilty of this practice, my particular quarrel is with the radiologist himself. In the parlance of the courts, my indictment of him consists of several counts.

First, he has been too supine in his acceptance of the category to which some of his medical brethren would relegate him, a mere producer of x-ray films, into which the general profession may read anything that strikes its fancy. He has not asserted with sufficient firmness the fact that the radiologist's function only begins after the film is made.

He has allowed hospitals, large and small, to exploit his department and capitalize his personal efforts for the gain of the stockholders in the hospital (often largely professional men), dictating to him what proportion of the fruit of his toil he is entitled to, and often putting a very definite limit on that participation. All this, too frequently, he has taken without remonstrance, fearing to lose a connection that seems valuable, or else possibly feeling, "What's the use?"

He has too often failed to insist on the proper information as to the clinical findings in the cases submitted for his examination, failing in many cases even to see the patient. How can he be considered a consultant—which he in fact is—if he does not even see the patient? Unless he does this, he is not in a position to render the full service and skilful interpretation of his roentgen findings, which his referring confrères have a right to expect of him.

Criticism is not infrequently heard that some of our large and important clinics have radiological departments that are run in a most sketchy and cavalier fashion. In the first place, the radiological equipment is purchased with what money is left after all other departments have been satisfied. This reflects upon the attitude of the personnel, and the service they give is apt to be of a half-hearted character. The result of all this is second-class work, and a decline in the estimation placed upon the department and what it stands for by the other departments of the institution.

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* Chairman's address, Radiology Section, at the sixtieth annual session of the California Medical Association at San Francisco, April 27-30, 1931.

I would particularly stress the latter indictment, for unless the radiologist demonstrates by his own efforts the full importance and value of his work (largely in the seriousness with which he regards it himself), it will avail him little to protest along any of the other lines mentioned. We must all realize, more and more fully, that the practice of radiology is in every sense the practice of medicine and so conduct our work, both in private practice and in hospital, that this impression will be emphasized to our medical confrères.

In no other line of medical work is more productive and brilliant research being carried on than in radiology. We have every reason to be proud of the achievements of our colleagues who are helping to make such marvelous strides in the successful diagnosis and treatment of disease. It remains for every man and woman engaged in the specialty, no matter how relatively obscure his or her position may seem, to pursue the work with the earnestness and dignity of which it is worthy; to scorn petty bickerings, to stand firmly on strict professional ground, and to give a service worthy of professional recognition.

In a short article of appreciation recently printed in one of our radiological journals, in connection with the death of an eastern member of our specialty, there was used the following statement, which struck me as most significant: "He was a physician, practicing radiology."

303 Medico-Dental Building.

TUMORS OF THE GLIOMA GROUP—THEIR HISTOLOGIC DIAGNOSIS*

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Discussion *by Zera E. Bolin, M. D., San Francisco; Ernest M. Hall, M. D., Los Angeles.*

UNTIL Virchow established the relationship between tumors developing within the substance of the brain and the supporting glial elements, their true nature had been the subject of much conjecture. As late as the fourth or fifth decade of the nineteenth century, all tumors situated within the encephalon were called "cancers of the brain." At this time a widespread effort was made to get away from this evidently too general term, and we find such tumors listed in the contemporary literature as *medullary sarcoma, markschwamm,* or *encephaloid.* The more specific term of *cephaloma* and later of *encephaloma* represented a still more definite attempt to put them in a class by themselves. Virchow,[1] after establishing their glial origin, first applied the term of *glioma* to the group of primary brain neoplasms.

While it has been widely recognized for many years that there is a great variation in the histologic picture presented by the gliomas, most of the attempts to classify them have been fruitless because most observers had but a few cases at their disposal. These misguided attempts have naturally given rise to a great deal of confusion in pathology as well as their terminology. Because of this discord, pathologists have been content to place all individual tumors, considered to be primary in the brain substance, under the collective and often inaccurate term *glioma.* A possible exception has been made in the case of the malignant invasive tumor, which from the time of Virchow has been distinguished by the term of *gliosarcoma.*

BASIS OF CLASSIFICATION

Until recent years the attempts to classify the group have been based largely on the gross appearance of the lesion. A firm, sharply delineated tumor was called a *glioma durum,* while a soft, invasive, and poorly defined growth was included in the term of *glioma molle.* Such a classification may be of clinical value to the surgeon, but to the pathologist it is ambiguous and misleading, since it provides no clue to their essential biologic nature. As in the case of tumors elsewhere, it has become more and more apparent that the only satisfactory classification must be based upon the histogenesis of their mother tissue. It has long been known that certain cell types existed in the gliomas, such as apolar, bipolar, unipolar, and multipolar forms, but their exact nature and biologic activity were obscure. Since the introduction of the specific metallic methods by Cajal and his school of neurohistologists, a means of properly interpreting these elements lies within our reach.

These specific methods have been utilized by Bailey and Cushing[2] in their study of the abundant material at their disposal. They have been able to establish more or less successfully the relationship of the various neoplastic cellular elements to embryonic forms found in the histogenesis of normal nervous tissue. The importance of proper histologic definition of a given glioma lies in the fact that it provides a basis for intelligent prognosis and treatment.

It is the purpose of this study to point out the important features of the histologic pictures of the gliomas so that the general pathologist may reach a definite conclusion as to the nature of a given tumor by the use of the routine methods at his disposal. We suggest the use of the following methods in the histologic study of the gliomas: hematoxylin and eosin for tissue architecture and nuclear detail, scharlach R for fat, Foote and Menard's method* for reticulin, Mallory's phosphotungstic acid-hematoxylin and aniline blue methods for the study of cell morphology and the tumor stroma. For most of the gliomas, these five simple methods are sufficient to establish a diagnosis.† Transitional or rare forms will be occasionally encountered which will require more detailed study, but these will be the exception.

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* From the laboratory of the Neurosurgical Service of Dr. Carl W. Rand, Los Angeles County General Hospital.

* Read before the Pathology and Bacteriology Section of the California Medical Association at the fifty-ninth annual session at Del Monte, April 28 to May 1, 1930.

* This method is far superior to van Giesen's for the study of connective tissue, giving a more accurate and clearer cut picture. The original method should be referred to (3).

CLASSIFICATION

Tumors of the glioma group constitute between 40 and 50 per cent of intracranial tumors. Bailey and Cushing have subdivided them into fourteen groups based upon the variation of their cellular constituents. We shall concern ourselves particularly with seven of these groups, which constistitute 85 to 90 per cent of the gliomas. To simplify matters, we propose the following classification:

1. Tumors of the choroid plexus (2 per cent).‡
2. Tumors of the ependyma (5 per cent).
3. Tumors of the nervous tissue proper:
    - a. Medulloblastoma (10 per cent).
    - b. Neuroglioblastoma (spongioblastoma) multiforme (30 per cent).
    - c. Astroblastoma (5 per cent).
    - d. Astrocytoma (35 per cent).
        - I. Protoplasmic.
        - II. Fibrillary.
    - e. Rare and unusual types (13 per cent).

This classification has in its favor simplicity, practicability and comprehensiveness, and for the general pathologist is well suited to the large majority of gliomas that come to his hand.

Tumors of the Choroid Plexus.—Papillomas of the choroid plexus are here grouped with the gliomas for sake of completeness. Because of their origin from a modified ependyma they are distantly related to tumors containing glial elements. Their papillary structure, as observed both grossly and histologically, makes their recognition comparatively easy (Fig. 1). They may be mistaken for metastatic papillary carcinomata, especially if but a bit of tissue is recovered at operation. The studies on this tumor by Davis and Cushing [5] and Van Wagenen [6] should be referred to for a more complete discussion.

Tumors of Ependymal Origin.—Tumors included under the term of *ependymoma* are usually benign affairs arising most frequently from the posterior portion of the roof of the fourth ventricle.[7] While they constitute only five per cent of the entire group, their benign nature and accessibility are arguments for a serious attempt at their removal. As exposed at operation or necropsy, they appear commonly as firm, gray-colored, easily separable tumors, presenting between the dorsal aspect of the medulla and the posterior margins of the cerebellar hemispheres. They occupy and distend the fourth ventricle, resulting in obstructive hydrocephalus. They are characterized histologically by an arrangement of the cells about blood vessels to form pseudorosettes (Fig. 2). Between the nuclei of the cells and the walls of the central blood vessel is a clear zone occupied by the tail-like processes. There is but little free fat, but the connective tissue about the numerous well-formed blood vessels gives the appearance of a stroma. Calcification is occasionally found in the central portions of the tumor.

Medulloblastoma.—This glioma, occurring most commonly in the midline of the cerebellum in childhood, constitutes a little over 10 per cent of the group. It has its origin in the anterior medullary velum and grows into the fourth ventricle, causing an obstructive hydrocephalus. On gross examination it is a reddish, soft, vascular tumor, exposed only by an incision through the vermis. It is the only common glioma which "infects" the subarachnoid space by direct extension tending to metastasize to the spinal cord.[8] The tumor is a very cellular one and, while hav-

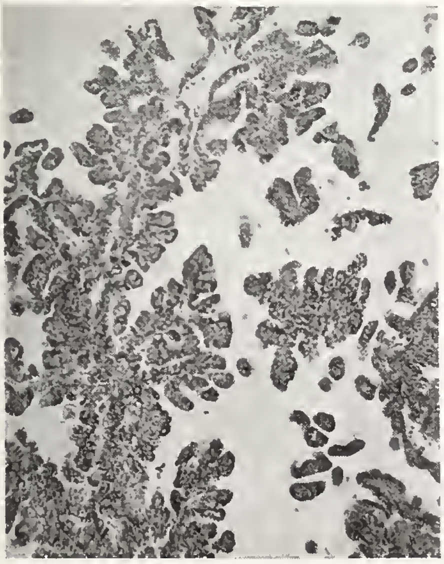

Fig. 1. — Papilloma of choroid plexus. Hematoxylin and eosin stain. X-95. The papillary arrangement of the tissue resembles that of the normal choroid.

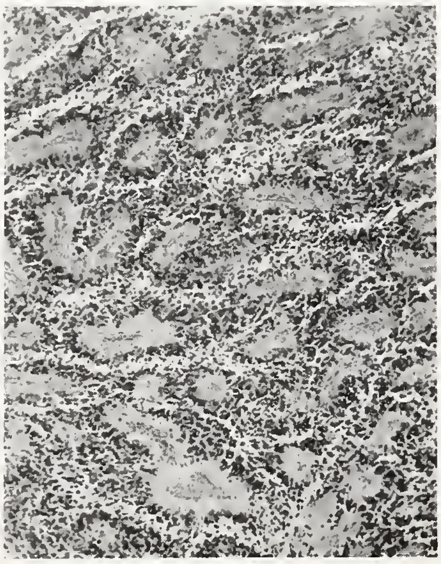

Fig. 2.—Ependymal glioma (ependymoblastoma). Hematoxylin and eosin stain. X-95. Formation of pseudo-rosettes about small blood vessels.

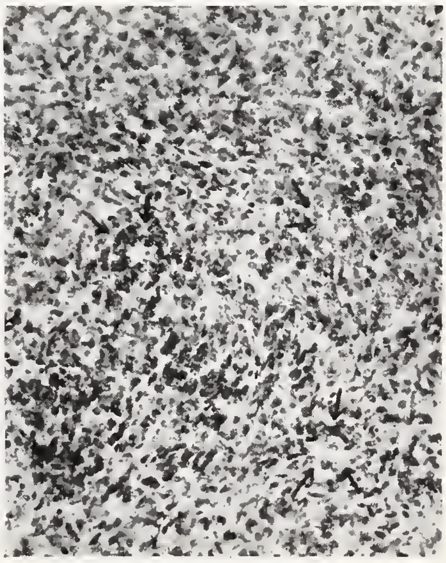

Fig. 3.—Medulloblastoma. Hematoxylin and eosin stain. X-220. Showing cellular character of the tumor tissue. Pseudo-rosettes are indicated by arrows.

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† It is essential for the pathologist interested in the study of the gliomas to become familiar with the histologic picture which each presents. Bailey's "Histologic Atlas of the Gliomas" (4) may be utilized to great advantage.

‡ These percentages are based on the figures of Bailey and Cushing.

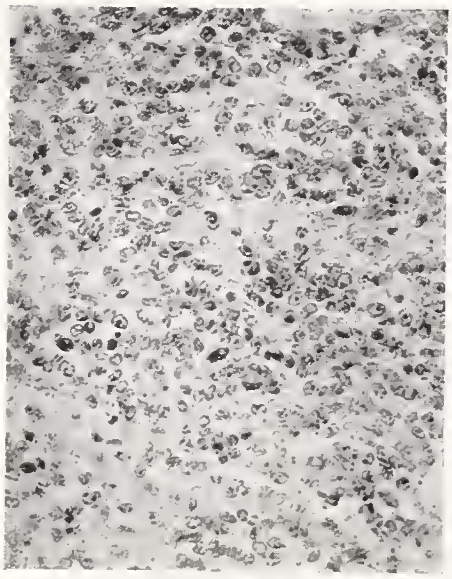

Fig. 4.—Medulloblastoma. Phosphotungstic acid-hematoxylin stain. X-220. Fibrillary character of the stroma is shown.

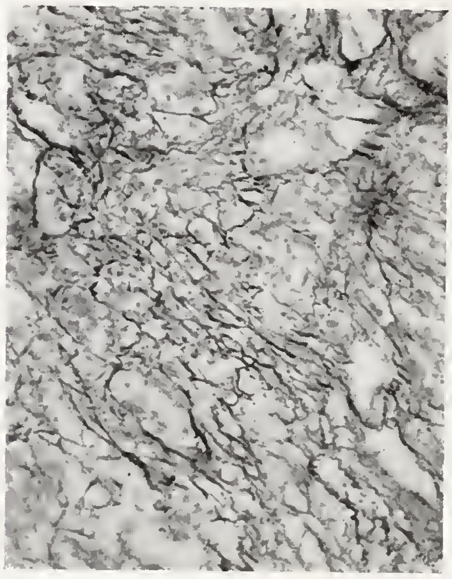

Fig. 5.—Medulloblastoma. Foote and Menard's method for reticulin. X-220. Connective tissue tends to form a net-like reticulum.

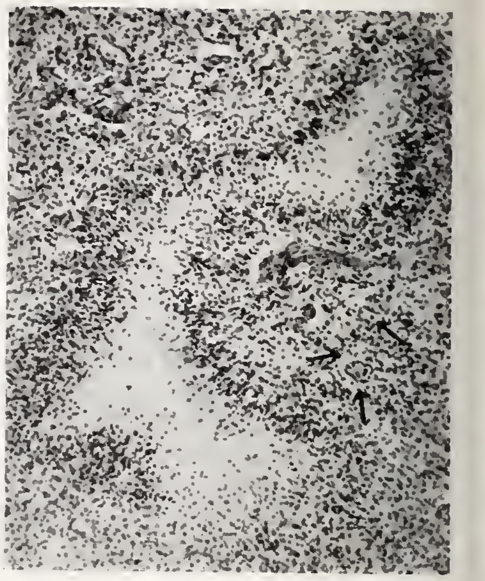

Fig. 6.—Neuroglioblastoma. Hematoxylin and eosin stain. X-95. Pseudo-palisades formed by degenerative changes. Pseudo-rosettes ("annulation forms") may also be seen (arrows).

ing no characteristic architecture, it tends to form pseudo-rosettes of nuclei about a central clear zone (Fig. 3). With the phosphotungstic acid-hematoxylin method, it is observed that these clear areas are occupied by the tail-like processes of the carrot-shaped cells (Fig. 4). Owing to the absence of extensive degenerative change, free fat is present only in the form of scattered droplets. Connective tissue is small in amount and tends to form a fine reticulum which is characteristic (Fig. 5). The blood vessels are small and well formed. Under the higher magnifications it is seen that the nuclei of the tumor cells are round or oval in shape, fairly uniform in size, and mitotic figures are usually plentiful.

Neuroglioblastoma (Spongioblastoma) multiforme.—This is the most common single type of glioma, constituting about 30 per cent of the group. It is the malignant invasive tumor of the cerebral hemispheres and has contributed much to the ill repute of the entire group. It has become commonly known as the *gliosarcoma* (Virchow) or *glioma sarcomatoides* (Borst) because of the fancied resemblance of its cells to those of mesothelial origin. It was called *spongioblastoma multiforam* by Globus and Strauss,[9] which term has been quite widely accepted. All of these names are based on the old conception that the tumor is purely glial in origin. Recent researches in our laboratory [10] have demonstrated to us that *neuroblasts* are present as well as *glioblasts* (spongioblasts), therefore the term of *neuroglioblastoma* is suggested as being a more accurately descriptive one.

The tumor may occur in any part of the cerebral hemispheres. It varies greatly in its gross

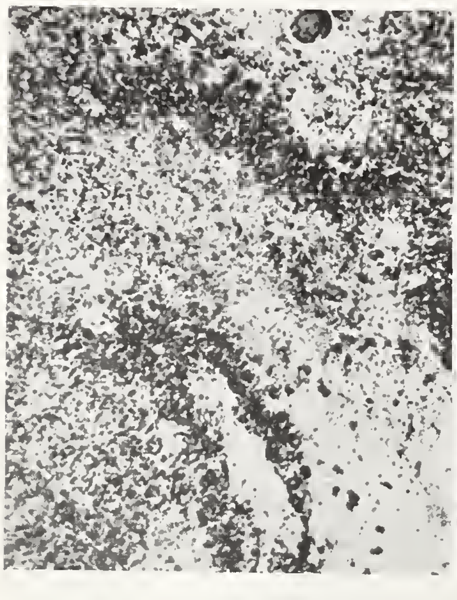

Fig. 7.—Neuroglioblastoma. Scharlach R stain. X-180. Globules of phagocytized fat along margins of pseudo-palisades.

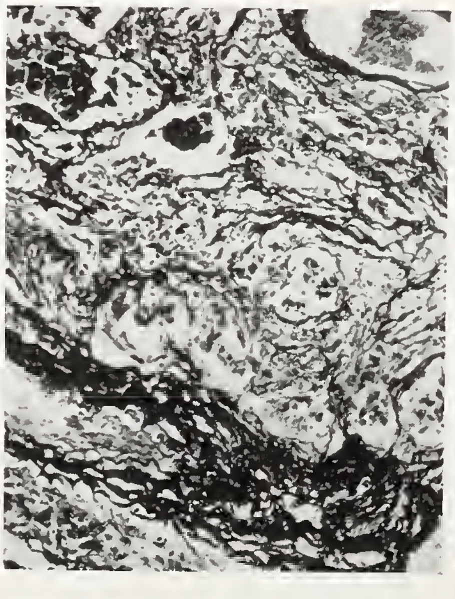

Fig. 8.—Neuroglioblastoma. Foote and Menard's method for reticulin. X-95. Dense reticulum of connective tissue in degenerating area. Adventitial proliferation is also shown.

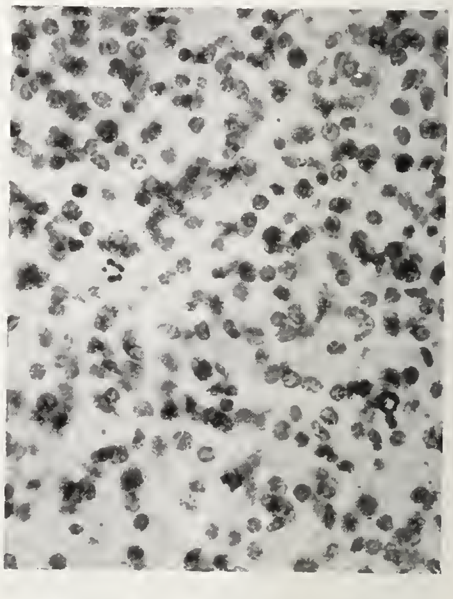

Fig. 9.—Neuroglioblastoma. Hematoxylin and eosin stain. X-800. Cellular character of the tissue is well shown. Variation in size and shape of nuclei, tumor giant cells, and mitotic figures are characteristic.

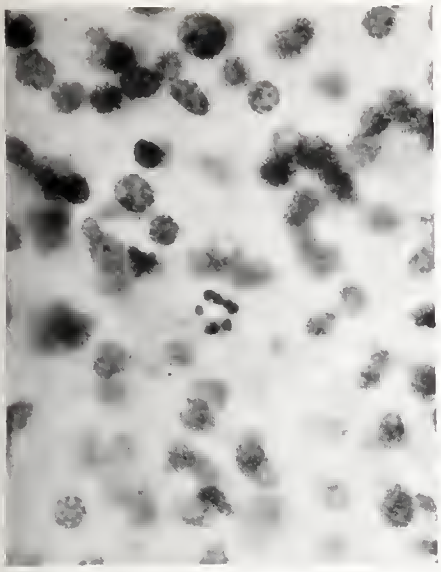

Fig. 10.—Same under higher magnification. X-1200. Variation in size and shape of nuclei more clearly shown.

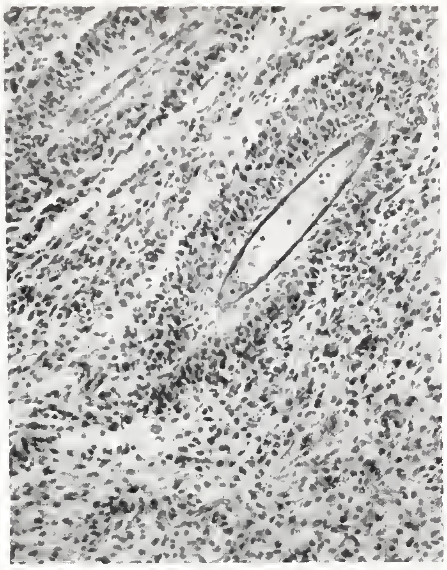

Fig. 11.—Astroblastoma. Hematoxylin and eosin stain. X-220. Radiation of cells about blood vessels is shown.

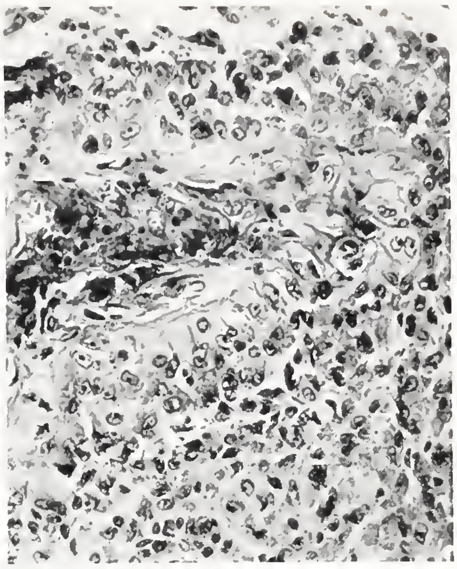

Fig. 12.—Astroblastoma. Hematoxylin and eosin stain. X-720. Attachment of cells to blood vessels by "sucker feet."

appearance, depending upon the type and degree of degeneration present. It is very vascular and hemorrhages are common. It is soft in consistency and usually presents no definite line of demarcation. Usually very invasive, its extension may be limited by the densely packed fibers of the corpus callosum. Large cysts filled with yellow fluid which coagulates on standing are not uncommon, particularly when the tumor is located in the temporal lobe.

Histologically the tumor is a very cellular one and while, like the medulloblastoma, it has no characteristic architecture, degenerative changes may give rise to pseudo-rosettes and pseudo-palisades (Fig. 6). In some cases annular forms may be found similar to those in the medulloblastoma. Regressive changes are due to alterations in the blood supply, and pathologic changes in the blood vessels are common, such as adventitial proliferation, hyalinization, and thrombosis. Rupture of the thin-walled blood vessels gives rise to numerous variously sized hemorrhages. Because of these changes there is an abundance of free fat as beautifully demonstrated by any of the fat stains. It may be spread more or less diffusely throughout the tissue or be found in phalanxes along the pseudo-palisades (Fig. 7). Extensive degenerative changes often result in the proliferation of connective tissue, forming dense scar-like areas (Fig. 8). It often occurs also as localized proliferations about the blood vessels or forms the walls of small cysts.

Of particular importance in the histologic diagnosis is a study of the nuclear detail, observed to best advantage with the oil immersion lens. The great variation in the size, shape, and chromatin content, as demonstrated by the routine methods, is absolutely characteristic (Figs 9 and 10). Multinuclear tumor giant cells, normal and abnormal mitoses are common. Multinucleation

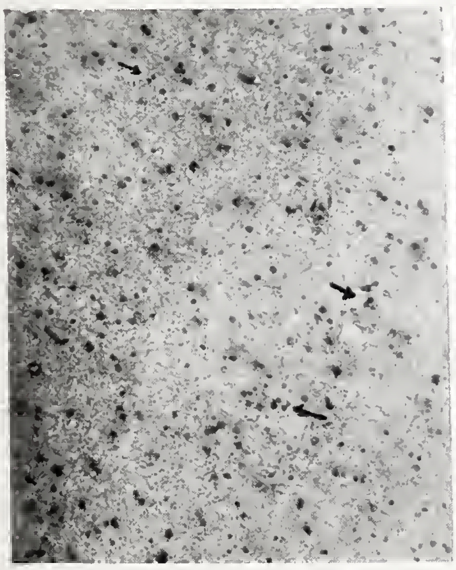

Fig. 13.—Astrocytoma. Hematoxylin and eosin stain. X-335. Nuclei of tumor cells scattered throughout fibrillary stroma. Double nuclei (arrows) indicate amitotic cell division.

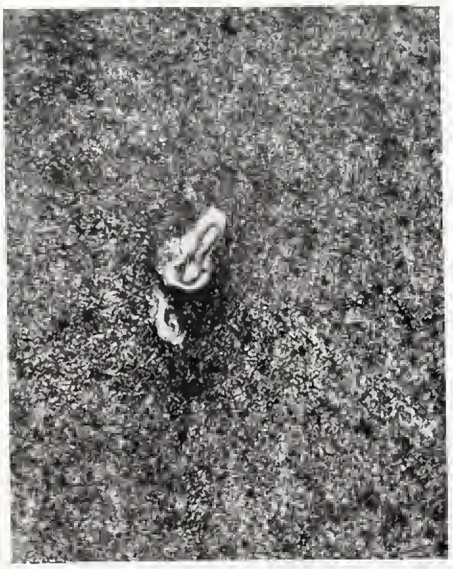

Fig. 14.—Astrocytoma fibrillare. Phosphotungstic acid-hematoxylin stain. X-335. Network of glia fibrillae is clearly shown.

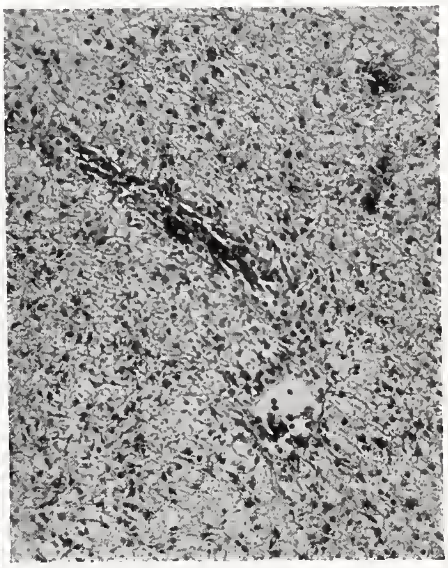

Fig. 15.—Astrocytoma protoplasmaticum. Phosphotungstic acid-hematoxylin stain. X-335. Tumor stroma consists of protoplasmatic expansions of glia cells, its structure suggesting a reticulum.

of the cells, constrictions and abnormal outlines of the nuclei indicate that amitosis is a common method of cellular proliferation.

Strange as it may seem, some of the slower growing members of this malignant tumor undergo calcareous degeneration, as we have shown in a recent study from our laboratory.[11]

Astroblastoma.—While this glioma is not a common one, constituting but five per cent of the group, it is apt to be encountered in any series of intracranial tumors being histologically investigated. It is a subcortical infiltrating growth of the cerebral hemispheres. While not appearing at all benign grossly, the average duration of life of patients afflicted with it is more than twice as long as those having a neuroglioblastoma. Like others of the group it may become cystic.

The microscopic picture of the astroblastoma is rather characteristic from an architectural standpoint.[12] There is a definite tendency for its cells to radiate about the blood vessels to which they are attached by long processes (Figs. 11 and 12). In this respect they resemble the immature neuroglia of the developing brain (astroblasts). The cells vary some in size and shape, but their contained single or multiple nuclei are quite uniform. Amitosis is the rule for cellular proliferation, mitotic figures being uncommon. Fat is present only in small quantities and the connective tissue is confined to the walls of the well-formed blood vessels. Examination of the tumor margin shows a fairly sharp line of demarcation, more so than one would suspect from the gross appearance of the tumor.

Astrocytoma.—The two types of this tumor, taken together, form the largest group of the gliomas, constituting about 35 per cent. Developing evidently from fully developed astrocytes by amitotic cell division, they are slow-growing and essentially benign. They are found in the cerebral or cerebellar hemispheres and are prone to undergo cystic degeneration, the smooth-walled cavities being filled with yellow coagulable fluid. There are two distinct types of the tumor. The *astrocytoma protoplasmaticum,* the more common of the two, is soft and gelatinous in consistency and gray in color, which makes it somewhat difficult to distinguish from normal cortex. The *astrocytoma fibrillare,* to the contrary, is firm and well delineated, and removal is comparatively simple.

Microscopically the tissue of either type is comparatively acellular, the rather uniform nuclei of the tumor cells being widely scattered in the stroma (Fig. 13). Degenerative changes being rare, free fat is unusual. There is no connective tissue save that in the walls of the few small well-formed blood vessels. The essential difference in the two types of astrocytoma lies in the character of the tumor stroma. That of the fibrillary type is composed of glia fibrillae, clearly demonstrated by Mallory's phosphotungstic acid-hematoxylin stain (Fig. 14). The protoplasmic type has for its stroma the cytoplasmic extensions of its constituent cells, which stain but feebly by Mallory's method (Fig. 15). A few fibrillary astrocytes may be found in this type. Calcification may occur in either of the two types and again indicates the relative benignity of this glioma.

The accompanying table indicates the essential features of the common types of the gliomas from a histologic viewpoint.*

SUMMARY AND CONCLUSIONS

1. The common types of glioma are recognizable by routine staining methods. The interpretation of the findings by these methods has been gained by the use of specific metallic impregnations.

2. An accurate pathologic diagnosis cannot be made from the gross appearance of the tumor alone, for several types resemble each other closely in color, texture, and especially in their tendency to become cystic. It is important for the surgeon to know the nature of a lesion exposed at operation in order to treat it intelligently as well as to gain an insight into its prognosis. It is, furthermore, of academic interest to the pathologist to be able to recognize the nature of tumors discovered at necropsy.

3. The essential points to study, histologically, in a given case are the architectural arrangement of the tissue, the amount and distribution of fat and connective tissue, and the nuclear detail, including the type of cell division. These essentials are revealed by the routine methods used in any well-organized pathological laboratory.

Los Angeles County General Hospital.

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* We would recommend the perusal of Dr. Wilder Penfield's account of the gliomas as being concise and yet sufficiently comprehensive (13).

TABLE 1.—*Essential Histologic Characteristics of the Common Gliomas*

	Tissue Architecture	Tumor Cells	Fat	Connective Tissue and Vasculature	Tumor Stroma
Papilloma choroideum	Cells arranged in tufts on supporting stroma as in normal choroid plexus.	Uniform columnar cells with oval, basilar nucleus.	0	CT forms perivascular supporting stroma. Walls of BV well formed.	Only in form of CT about blood vessels.
Ependymal gliomas	Rows of cells or pseudo-rosettes—a ring of nuclei separated by clear zone from central BV.	Carrot-shaped cells with oval nuclei, uniform in size. Usually no mitoses.	+ —	CT confined to walls of numerous well-formed BV. Appears like stroma.	Consists of cytoplasm of tumor cells.
Medulloblastoma	May be rows of cells or pseudo-rosettes—ring of nuclei about central clear zone.	Carrot-shaped cells with uniform, oval nuclei. Mitoses are numerous.	+ —	CT tends to form a fine reticular network. BV usually small and well formed.	Not usually abundant. Consists of processes of cells.
Neuroglioblastoma	Pseudo - palisades due to degenerative changes. May be pseudo-rosettes in form of ring of nuclei about central clear zone.	Marked variations in size, shape and chromatin content of nuclei. Nuclear wall may be irregular. Mitoses and giant cells are comman.	+ + +	CT may be abundant, tending to form scar-like masses in degenerating areas. Rupture and thrombosis of BV are common.	Varies greatly in amount. Consists of processes of cells, CT and engulfed nerve fibers.
Astroblastoma	Cells tend to radiate about BV to which they are attached by "sucker feet."	Cells vary in shape. Nuclei more uniform in size, shape and chromatin content. No mitotic figures.	+ —	CT confined largely to walls of well-formed BV.	Moderate in amount. Consists of processes of tumor cells.
Astrocytoma i protoplasmaticum ii fibrillare	No characteristic architecture of tumor tissue. Comparatively acellular.	Round or oval nuclei are fairly uniform in size. No mitoses. Typical stellate cells with specific methods.	0	CT found only in the walls of small well-formed BV.	Few or no glia fibrillae. Abundant glia fibrillae.

CT—Connective tissue.
BV—Blood vessels.

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DISCUSSION

Zera E. Bolin, M. D. (University of California Hospital, San Francisco).—Advances in medical knowledge are usually made by specialists working on material in their chosen field. The knowledge obtained by these specialists is often useless to the general man, unless it is put into a form which can be understood and used by him.

The knowledge gained concerning gliomata has been placed on a firm histogenetic foundation by the workers in neuropathology. It is now necessary to have this knowledge disseminated through the general pathologists and, through them, to the neurosurgeon and the general practitioner.

The authors have taken the second step in this process. They have simplified the classification of gliomata and have shown that the hospital pathologist, using a few simple methods, can classify these tumors.

Bailey and Cushing in their work on gliomata have shown that such a classification is a clinical aid. These tumors may cause death in a few months or may last for years. This prognostic fact can be fairly well predicted by a histologic examination of the tumor. This examination places the gliomata in certain classes which have been shown to have very different survival periods.

Treatment of the tumor, subsequent to its classification, is influenced greatly. Certain classes of glioma do not respond to any treatment. Others are kept in check by repeated surgical excision, or by x-ray therapy or by combinations of these treatments.

The classes are based on the resemblance of the tumor cells to cells seen in the embryologic development of the central nervous system. This method would be accurate if the histogenesis of the brain was known fully. As certain details of this process are yet to be worked out by the neuro-anatomist, any classification advanced is, as yet, tentative. When our knowledge of the histologic embryology of the brain is supplemented, these facts can be applied to the classification of gliomata.

Classification will depend also on the close scrutiny of the tumors and the discovery and interpretation of new cell types in them. This is shown in the authors' proposal to change the name of the tumor now called "spongioblastoma multiforme" to "neuroglioblastoma" since they have found neuroblasts as well as spongioblasts (glioblasts) in this type of tumor. It is very probable that other changes in the names of the classes will follow close study of a large group by special methods. This has been done by Tooth, Greenfield, Roussey, and by Cushing and Bailey.

The authors are to be congratulated upon their effort to simplify the classifications of gliomata and bring this difficult subject in the scope of the busy hospital pathologist.

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Ernest M. Hall, M. D. (University of Southern California School of Medicine, Los Angeles).—Bailey and Cushing call attention to the impression that prevails among clinicians and laboratory workers that the microscopic examination of tumors of the brain substance will not help in predicting their future development and clinical course. The more progress that is made in the classification of these tumors, based on the histogenesis of the various tissues composing the central nervous system, the more it is evident that a great deal can be foretold as to the clinical course of such tumors based on their histologic characters.

Tumors of the brain substance follow the general law governing tumors occurring elsewhere in the body in that the degree of malignancy is greatest in the embryonic cell types, becoming less as cellular differentiation increases. When one realizes that nearly 50 per cent of gliomata are among the fairly well differentiated cell-type tumors and, therefore, of hopeful prognosis following surgery, provided they are accessible in location, one comprehends, in a measure, the importance of recent advances in classification.

Classifications such as Bailey and Cushing have given us, based on the use of highly technical metallic impregnation methods of Cajal, are illuminating and extremely important. It is only by means of these methods that true relationships can be established between the tumor cells and embryonic forms found in the development of normal nervous tissues. These complicated methods are not practicable, however, for the average hospital pathologist. Doctors Courville and Adelstein have met a real need in not only simplifying the classification of Bailey and Cushing, but in making it possible to classify these tumors as to histologic type by means of routine and other relatively simple staining methods. It must be borne in mind, as the authors themselves point out, that this work was possible only after the establishment of these histologic types by means of the more complicated methods.

The result of such simplification will be a stimulation to a more detailed study of the gliomata by the general pathologist as well as by the neuropathologist which over a period of years, will result in an accumulation of a considerable body of new facts and more thoroughly classified knowledge. This new knowledge will in all probability add materially to the benefit of the patient in prolonging his life, will give greater confidence to the neurosurgeon whose lot has been a discouraging one, and will, from a purely scientific standpoint, increase the interest in a subject that has been in the past obscure.

The authors have treated their subject in a simple, intelligent manner. It is decidedly a step forward.

AGRANULOCYTIC ANGINA*

REPORT OF CASE

By George A. Gray, M. D.
San Jose

Discussion *by Herbert C. Moffitt, M. D., San Francisco; Ernest H. Falconer, M. D., San Francisco; William H. Strietmann, M. D., Oakland.*

Schultz[1] in 1922 brought to our attention an unusual symptom complex first presented by Schwarz in 1904. The patients with this symptom complex were characterized by gangrenous stomatitis with an unusual blood picture of granulocytic leukopenia. He considered these symptoms manifestations of a specific disease called agranulocytosis or agranulocytic angina. Since that time descriptions of some two hundred similar cases have appeared in medical literature (Friedmann and others).[2] A number of these reports on what was presumably agranulocytosis however, differ distinctly from those which Schultz described under the symptom complex of agranulocytic angina. Because of the increasing frequency with which this condition is being diagnosed, as well as because of its extremely high mortality rate—over 90 per cent usually being fatal—it is desirable to learn as much as we can about this condition by reporting all cases and describing them as fully as possible.

To my mind, several of the patients reported as cured have fallen into the doubtful group, diagnostically speaking, so that to fully test any promising therapeutic suggestions in this rather dismal field we should first be certain that we are dealing with an actual case of true agranulocytosis or agranulocytic angina. To refresh our memories, therefore, a summary of the pertinent points associated with the disease may be here described.

OCCURRENCE AND SYMPTOMATOLOGY

Agranulocytic angina occurs at all ages and in both sexes, but more commonly in females. It is manifested by sudden rise of fever, dysphagia, chills, and malaise. These symptoms progress to severe toxemia and prostration, which, during the course of the disease, become extremely marked. The onset usually comes in a period of good health, but may follow various chronic conditions. The symptomatology is not constant. Stomatitis is nearly always present. There may be regional adenopathy and enlargement of the liver and spleen; while during the course of the disease ulcerations may occur on the throat, vagina, or anus, many of them being membranous in character. Jaundice is common, while petechial hemorrhages are rare except in the rapidly fatal cases.

DIAGNOSIS

The diagnosis is usually made on the blood picture where there is a pronounced leukopenia, and granulocytic leukocytes are either absent or reduced to exceedingly low percentages. The average count is usually 1200 cells per cubic millimeter, although occasionally there may be an initial leukocytosis. During the course of the disease there is a gradual decrease in the number of cells. The percentage of polymorphonuclear leukocytes is always reduced to an average of between zero and six per cent. A relative lymphocytosis is always noted, varying from 60 to 100 per cent. The endothelial cells are from 4 to 8 per cent. The absolute number of lymphocytes is usually decreased, but it may be normal. The degree of anemia is not so severe as that seen in other types of aleukemic forms of myeloses, and lymphadenoses; but the erythrocytes are usually reduced, the count varying between 2,500,000 and 3,500,000. The blood platelets retain a normal count. These blood changes of a neutrophilic leukopenia, with a relative lymphocytoses, are thought to be the result of the primary depressing action of an unknown etiological agent on the bone marrow. A toxin generated by a septicemia, with a special affinity and toxicity for the granulocytic system, is thought to be the active factor in paralyzing this generative function of the bone marrow. The ulcerative sites in the various mucous membranes are thought to arise, secondarily from the blood changes, due to a de-

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* Read before the General Medicine Section of the California Medical Association at the fifty-ninth annual session at Del Monte, April 28 to May 1, 1930.

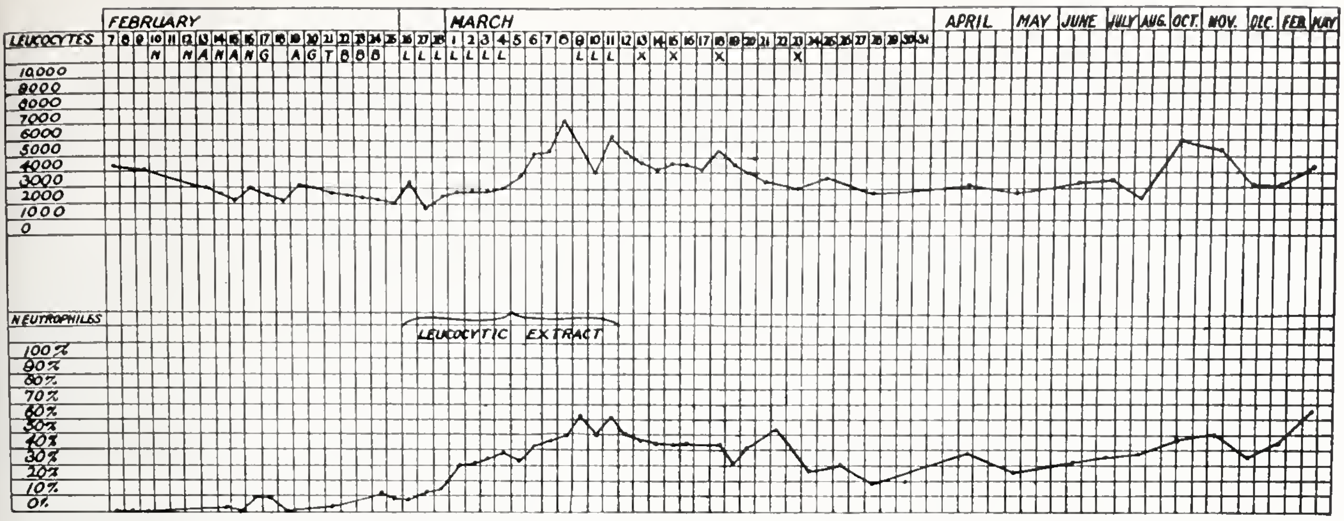

Fig. 1.—Case report chart: N, neoarsphenamin; A, activin milk protein; G, glucose; T, transfusion; B, bacteriophage; L, leucocytic extract; X, roentgen ray.

crease in the body resistance to infection, especially as the ulceration sites show a lack of cellular response of inflammation. The same thing applies to the pneumonic complications in the lungs, which is the usual cause of death. In looking back, therefore, one might wonder if some of our fulminative so-called influenzal pneumonias (with leukopenia) were not in reality cases of agranulocytosis.

ETIOLOGY

The cause of agranulocytosis is still unknown. It is generally accepted that no known microorganism is responsible for the disease. Vincent's organisms are commonly found in the oral cavities of the acute leukopenic patient, especially if there is any necrosis of the mucous membranes; but Vincent's organism may be found in any condition of the mouth where sloughing is taking place. Autopsy findings throw little light on the cause of the disease, as the spleen, lymph glands, and liver show no macroscopic or microscopic changes distinctly peculiar to this condition. Blood culture reports have been rather unconvincing.

DIFFERENTIAL DIAGNOSIS

The differential diagnosis in agranulocytic angina usually presents points similar to a reaction to specific poisoning, to leukemia, certain aplastic blood conditions, and to cases of sepsis with a leukopenia.

Since more than 90 per cent of the reported cases have proved fatal, and there is no specific form of treatment available, any therapeutic procedure that has been followed by apparent recovery is deemed of sufficient interest to be worth reporting in detail. Hence, the following citation is reported here: one, because it affords an opportunity of presenting a consecutive picture of the blood changes occurring during the course of a case of apparent recovery of this usually fatal disease; and two, in order that the value of treating these cases with large doses of leukocytic extract may be determined upon by other clinicians.

REPORT OF CASE

Our patient was admitted to the hospital on January 25, 1929, with apparently the symptoms of an acute respiratory infection. Temperature was 103.8 degrees. Pulse rate of 106, and a respiration of 26. Patient complained of aching in the muscles, sore back, backache, soreness in throat, and stuffiness in the nasal passages. Her physical examination was essentially negative, except for evidence of inflamed throat and possibly slight sinus involvement. She complained of headache, frontal in type, and she had given a history of having had some sinus difficulty in the past. Blood count at that time was: hemoglobin, 75 per cent; red blood cells, 4,740,000; leukocytes, 5800; lymphocytes, 24 per cent; monocytes, 67 per cent; and neutrophils, 9 per cent. (Count taken October 29, 1927: leukocytes, 5000; neutrophils, 80 per cent; small lymphocytes, 16 per cent; large mononuclears, 4 per cent.) Under symptomatic treatment her temperature, which on the second day was 101 degrees, gradually subsided to normal on the third day of illness. From that time on it would rise to 99.4 degrees occasionally, but was entirely normal on the thirty-first day of January. On the third day of February, even though temperature arose to 99 degrees in the afternoon, she was permitted to go home. This slight temperature persisted, and on the second day following, flared up to 103 degrees. Temperature varied after readmission from 100 to 103 degrees, until, approximately, March 1, when it again became normal, after thirty-five days of illness.

The most outstanding factors, from a clinical viewpoint, were the marked prostration and the ulcerations that developed in the mouth; these latter being small membranous areas noted along the gums, with the largest on the palate and in the nasopharynx. On the fourth day of the second hospital admission, smears were taken and a typical Vincent's angina spirochete, and fusiform bacilli were reported from the laboratory, while the cultures showed streptococci and staphylococci. We then thought we were dealing with a Vincent's angina and treated it locally with the various procedures used in that disease, but without noticeable effect. Leukocytes, on readmission of February 7, were 4200; lymphocytes, 62 per cent; monocytes, 38 per cent; and no neutrophils. The leukocyte count was gradually reduced to 2400, and the neutrophils varied from 0 to 8 per cent. The lymphocytes ran between 60 and 85 per cent. Intravenous glucose, foreign protein, blood transfusion, and other things were given in an attempt to help overcome the acidosis and prostration, which were the important symptoms during the following days; but without any marked impression upon them. The necrotic areas became more extensive, and in one place extended through to the bony plate of the hard palate, this spot being visible over an area of about one inch in diameter. Cultures were made of this necrotic tissue and when a staphylococcus was found a bacteriophage was obtained. Injections, subcutaneously, of 1, 1½, and 2 cubic centimeters were given daily for three days without any appreciable change in the leukocyte picture, although the neutrophils jumped from 0 per cent up to 11 per cent and then maintained a level at this point before gradually ascending under subsequent therapy. The second day after the last bacteriophage injection was given, from 10 to 30 cubic centimeters of leukocytic extract were used daily. The necrotic ulcerations were treated locally, the bacteriophage being swabbed on as well as injected under the necrotic layers of the membranes and also directly into them. The improvement of these necrotic areas from day to day was simply miraculous, following the use of the 'phage. The ulcerations and sloughs practically melted away and the other mucous membrane lesions and swellings cleared up very rapidly. Personally, I believe the 'phage was an important factor in the return to normal of the mucous membranes, judging from my observations at the time of administration.

Continuing the leukocytic injections, there was a definite increase in the blood picture, as far as the leukocytes and neutrophils were concerned (see accompanying chart), rising from a low 1600 minimum to a high 7700 maximum in sixteen days, and the neutrophils from 0 to 72 per cent. The patient, however, objected so strenuously to the injections of the leukocytic extract that we were forced to discontinue it. On the fifth day, following the discontinuance of the leukocytic injections, the temperature arose from normal to 100.2 degrees. The leukocytic count dropped from a high point of 6700 to 4000 and the neutrophils from 72 to 52 per cent, and we again proceeded with the leukocytic extract administration. In four days the leukocytes rose to 5500 and the neutrophils to 65 per cent. Here again, due to the objection on the part of the patient to the discomfort resulting from the injections, we again discontinued the administration, resorting at that point to roentgen-ray therapy.[3]

At present the patient looks extremely well and states she feels better than she has in months. Her red blood count is normal and her white blood count, having been taken at regular monthly intervals, was found to vary from 6000 with 46 per cent neutrophils on October 1, 1929, to 4400 and 63 per cent neutrophils on March 24, 1930. The last count on March 24, 1930, was as follows: hemoglobin, 77 per cent; red blood cells, 4,813,000; white blood cells, 4400; neutrophils, 63 per cent; small lymphocytes, 33 per cent; monocytes, 2 per cent; basophils, 2 per cent.

CONCLUSIONS

I believe that in addition to the ordinary symptomatic treatment and the combating of the toxemia in agranulocytosis the most hopeful, present form of therapy is: leukocytic extract in adequately large doses, varying from 20 to 50 cubic centimeters in twenty-four hours, depending upon the granulocytic system response during the acute toxic course of the disease. This to be followed, as soon as the blood picture is held in check, by deep roentgen-ray therapy in one-twentieth skin unit doses over the long bones, as suggested by Friedemann,[2] Call, Gray, and Hodges,[3] and others.[4]

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4. For reports of two additional patients with apparent recovery during the use of leukocytic extract, see articles by J. M. Askey, California and Western Medicine, July 1929, Vol. 31, No. 1, pp. 50-51, September 9, 1927 and W. B. Blanton, J. A. M. A., Vol. 92, No. 25, p. 2099, June 22, 1929.

Five patients are also reported as recovered by use of roentgen-ray therapy.

DISCUSSION

Herbert C. Moffitt, M. D. (384 Post Street, San Francisco).—Before Schultz published his paper in 1922 we saw several fatal cases of what was then called "aleukemic leukemia" or "sepsis with leukopenia." A young woman seen, with Doctor Jellinek, with, retrospectively, typical agranulocytosis, recovered and remained well. She was given leukocytic extract in moderate doses. Since 1922 I have seen fifteen cases, and only one patient is still living. A woman died during the fifth relapse of ulcerative mouth lesions and typical blood changes. A man, age fifty, with long-standing tabes died with recurrence of throat lesions two years after the initial attack. A woman, age seventy, died in her third attack. Doctor Thayer of Baltimore has recently published notes on an extraordinary case of sore mouth, temperature and agranulocytosis recurring at three-week intervals from birth, or soon after, to the present age of twenty-two. The boy was under my care some years ago. Apparently, with him blood changes preceded temperature and mouth lesions in which Vincent's organisms were constantly present. During one period of agranulocytosis, years before, an intercurrent pneumococcus pneumonia brought about a polynuclear leukocytosis which, after the crisis, gave place to agranulocytosis although the usual periodicity was not due. In the cases which develop right after tooth extraction in apparently healthy individuals, some of whom have had normal blood counts just before, initial infection rather than bone marrow lesions would seem the exciting factor. Moreover, we see the condition apparently following an infection of some chronicity, either in mouth or about the rectum, or even without demonstrable focus. It seems necessary, however, as in Doctor Gray's case, to assume some inherent weakness of bone marrow to explain the lack of the usual reaction to infection. Even now, considering the leukopenia—4400 in his patient—I would not be too enthusiastic about prognosis. If recovery takes place we should insist on careful treatment of existing infections, although radical measures in regard to teeth and tonsils should be avoided if possible. I would lay more stress upon Vincent's disease than is usually done. It often lies dormant deep in the gums, and we may safely use bismuth preparations if we fear arsphenamin. Doctor Gray has given the best methods of treatment we have at command during the acute stages. I would add massive doses of liver extract and a fixation abscess by injection of one or two cubic centimeters of turpentine deep into the anterior thigh muscles. If patients apparently recover, they should be tested for achylia, chronic infections should be treated, diets rich in nucleins, liver would seem in order, and frequent blood counts should determine the efficacy of sun or quartz-lamp treatments or the advantage of bone marrow, arsenic or other drug administration.

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Ernest H. Falconer, M. D. (384 Post Street, San Francisco).—One is particularly interested in Doctor Gray's carefully prepared report on account of the apparently increasing frequency of this syndrome. It is a moot question whether the so-called agranulocytic angina described by Schultz in 1922 is a distinct clinical entity or a group of diseases. I have recently seen a case in a child which, clinically, fitted very closely into the syndrome known as agranulocytic angina, but which followed closely an attack of measles. Measles is, of course, one of the diseases that produces a leukopenia and low granulocyte count. There are many variants of the originally described syndrome reported in the literature. Until we know more of the etiology, therapy must of necessity be empirical. This is no reason, however, for not making careful observations, as Doctor Gray has done, on the results following the use of leukocytic extract. Others are reporting results similar to Doctor Gray's, and we await with interest reports of experimental work with this agent. One wishes that Doctor Gray had mentioned the brand of leukocytic extract used and the method of its preparation.

William H. Strietmann, M. D. (230 Grand Avenue, Oakland).—Doctor Moffitt has referred to a young man with a cystic recurrence of agranulocytosis, associated with a recurrent exacerbation of a stomatitis and especially gingivitis of moderate grade. I have had the opportunity to observe this same patient for the past two years. His "attacks" recur at six-week intervals, but are growing much less severe. The fever does not now exceed 100 degrees, and is often lower. The mouth symptoms are less severe and the leukocyte count may not go below 3000, though the granular elements are always notably reduced, varying in the past two years from 35 to 5 per cent during the height of the exacerbation. This young man was originally the patient of Dr. William S. Thayer and, from recent correspondence with him, I am quite sure that the case will be fully reported in Johns Hopkins bulletin.

Arsenicals must be used with caution because of the tendency to produce a leukopenia.

Of three cases under my observation in the past few years, none have recovered. One of these was treated, according to Doctor Gray's suggestions, with 20 cubic centimeters of leukocytic extract at eight-hour intervals, supplemented by a blood transfusion, but died on the third day.

Again, one should always bear in mind the tendency to recur, remissions of a variable period being not uncommonly noted.

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Doctor Gray (Closing).—Further blood counts on this patient have been checked through the present year. On May 1930: leukocytes, 6900; neutrophils, 62 per cent. On July 1930: leukocytes, 5900; small lymphocytes, 45 per cent; eosinophils, 4 per cent; basophils, 2 per cent; neutrophils, 49 per cent. On September 1930: leukocytes, 3800; small lymphocytes, 15½ per cent; monocytes, 10½ per cent; neutrophils, 47 per cent (200 cells counted). On November 1930: leukocytes, 3050; red blood corpuscles, 4,310,000; hemoglobin, 84 per cent; small lymphocytes, 47 per cent; monocytes, 2 per cent; neutrophils, 51 per cent.

The patient is still feeling perfectly well and has recently had a slight cold, which may have been a factor in depressing the last two leukocyte counts. Because of this gradual drop, I have again started leukocytic extract injections in two cubic centimeter amounts twice weekly, and the patient is now feeling better symptomatically, as regards her strength, energy, etc. The blood count, after four injections, is as follows: On December 5, 1930—leukocytes, 3900; neutrophils, 42 per cent; lymphocytes, 45 per cent; mononuclears, 2 per cent; basophils, 1 per cent.

Regarding Doctor Faulkner's question as to the brand of leukocytic extract used and the method of its preparation, I wish to state that I used the stock preparations of the Vitalait Laboratories, San Francisco, and the E. R. Squibb & Sons, New York.

Since reporting this case at the fifty-ninth annual session at Del Monte, I have been in consultation on three other cases of agranulocytosis; two of which were of such a fulminating character that they expired within twenty-four hours of the time of diagnosis. This was, naturally, before leukocytic extract had any possible chance of being of value. One case in a child less than two years of age was treated with leukocytic extract in adequate dosage with remission of attacks; but eventually the child expired during a relapse when no leukocyytic extract was used. There was some doubt as to this being a true agranulocytosis, but because of the severe primary anemia present, which yielded somewhat, for a period at least, to repeated transfusions, this case was thought to be an aplastic anemia with accompanying leukopenia rather than a true agranulocytosis.

It is hoped that this case report will stimulate others to use the massive dosage of leukocytic extract so that the real efficacy of this treatment may stand or fall under an adequate clinical trial.

ARTHRITIS*

By Rodney F. Atsatt, M. D.
Santa Barbara

Discussion *by William J. Kerr, M. D., San Francisco; John C. Wilson, M. D., Los Angeles.*

It may seem presuming for an orthopedic surgeon to address the medical section on the subject of arthritis, but it will be my endeavor to present the matter from the point of view of an orthopedist with the hope that it may be of some value to you.

Each specialist attacks problems in medicine according to his training and train of thought and, in so doing, each one is apt to lose sight of the fact that the symptoms which he treats are but a portion of a general disease picture. The internist may interpret the disease in terms of diet, medication, and disturbances of bowel regulation. The rhinolaryngologist and the dentist think of it as one caused by focal infections. The gynecologist and the urologist may also recognize the disease as one based on focal infection. The orthopedist sees end results with the problems of contractures and malfunctioning joints and further may think in terms of posture, statics and poor body mechanics as factors influencing the course of the disease. The physiotherapist may see the disease as a problem of blood and lymph stasis, bowel stasis, atrophied muscles, adherent tendons, fibrotic capsules, and far too often there is the *bete noir* of *contractures.* Thus we have ofttimes a multiplicity of investigation and therapy without much thought being given to the patient as a whole. It is the thesis of this paper that consideration of the patient as an entity is probably the most important item in the treatment of arthritis.

A DISEASE OF ANTIQUITY

Let us review briefly some of the knowledge of the subject. The disease is of tremendous antiquity, for paleontologists working in Rancho La Brea here in California have brought to light specimens of saber-toothed tigers in which the spines show well-developed hypertrophic arthritis. From this early prehistoric period arthritis may be traced to ancient Egypt, which knew the disability as one of middle and old age, as has been shown by dissection and roentgenograms of mummy specimens. The Greeks and Romans treated arthritis by means of baths and purges. Recent years, however, have seen a determined effort on the part of clinicians and research workers to solve what is probably one of the most widespread and yet one of the most baffling of diseases.

CLASSIFICATION

The most satisfactory classification is the old one which recently has been adopted by the American Committee for the Control of Rheumatism, dividing the disease into the atrophic and hypertrophic groups. This is similar to the pathological classification of Nichols and Richardson, who called the divisions proliferative and degenerative.

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* Read before the General Medicine Section of the California Medical Association at the fifty-ninth annual session at Del Monte, April 28 to May 1, 1930.

Atrophic or Proliferative Group.—In the atrophic and proliferative form, as you know, there develops from the synovial membrane a pannus-like growth which spreads out over the cartilage and eventually destroys it. Fibrous changes take place in the synovial membrane and capsule, often giving a marked spindle-shaped periarticular thickening. This form of the disease is progressively polyarticular and often advances to complete ankylosis. It usually attacks the young or middle-aged individual and is extremely chronic.

Hypertrophic or Degenerative Group.—In the hypertrophic or degenerative form, the cartilage softens and is eroded to give a joint in which the articulation is between bare eburnated bones. The joint itself is irregularly enlarged due to the formation of osteophytes around the joints as illustrated by Heberdeen's nodes on the fingers. The hypertrophic form appears in the later decades of life usually after the age of forty-five. It is subject to periods of exacerbation and remission, the pain depending largely upon the state of the inflammatory reaction in the soft tissues of the joint and those surrounding the osteophytic spurs.

ETIOLOGY

The etiological factors involved may be many. Whether this is a disease of focal infection, metabolic disturbance including dysfunctions of the endocrine system, allergic phenomena, absorption from the gastro-intestinal tract or the result of traumatism is an open question.

From the standpoint of focal infection there always must be considered the well-known triad of teeth, tonsils, and sinuses, together with infections of the bowels, urinary tract, and pelvis. Furthermore, focal infections may effect the joint changes by one of three ways—direct passage of organisms to lodgment in the joints; affinitive absorption by the joints of circulating bacterial toxins from distant foci; and lastly the possibility of joint damage through the deleterious effect of bacterial toxins on the general body metabolism.

From the metabolic standpoint there must be considered the effect of the ingestion of increased amounts of carbohydrate and nitrogenous foods and their digestion. Dysfunctions of the endocrine system, especially the thyroid gland, are another problem in metabolism.

In considering toxic absorption from the gastro-intestinal tract as a cause of arthritis there must be borne in mind not only the possibility of bacterial intoxication, but the possibility of partially split proteins reaching the large bowel. Here there is no protective erepsin ferment mechanism, and these partially split proteins may pass into the blood stream while in the toxic form.

Traumatism plays a part in nearly every case of hypertrophic arthritis in that while the disease may have been quietly advancing for some years (perhaps even due to small repeated strain traumata) suddenly there comes some distinct major or minor injury which so aggravates the local condition that it is brought to the attention of the patient for the first time.

In the estimation of some, there is an underlying background which many times dominates the picture and actually controls the course of the disease, making it one of progression or regression, as the case may be. For want of a better term, this background will be called resistance. It is perhaps impossible to define, but among other things, of course, ideal resistance would include a condition of well-being wherein there was no absorption or metastasis from focal infection, no indigestion with unbalanced metabolism or toxic assimilation and no debilitation from intercurrent disease or from exposure to wet or cold.

Closely coupled with these physical and chemical conditions influencing resistance and really an important part of it is the physiological factor of fatigue. Fatigue is a relative state and is induced in various patients by a variety of causes and in varying intensity by similar events. There is a nicety of balance between resistance and fatigue and when the boundary line between fatigue and overfatigue is crossed, the immediate reaction is a lowering of active vitality. This lowered vital state may be promptly reflected in the condition of the arthritic patient, especially in the atrophic type. More and more is fatigue becoming recognized as an etiological factor in arthritis, and it is being learned gradually that the avoidance of this reaction is oftentimes of more importance than some seemingly necessary procedure of treatment.

Allied with the effect of fatigue as an etiological factor in atrophic arthritis, is the rôle of hard work or hard play in the production of the hypertrophic type, for often this form is seen in those individuals who have been strenuous in their endeavors. Some observers maintain that, in the early stages at least, this hypertrophic form does not represent so much an arthritis or joint inflammation as it does an effort on the part of nature to strengthen the ligamentous and capsular attachments around the joint periphery by ossification. Thus intense activity may be prolonged past the period of middle life with apparent immunity until some wrench or fall may bring to light a process which is far advanced.

TREATMENT

The problem of treatment in arthritis is a complex affair. Naturally with the wide variety of etiological agents which have been considered, the forms of treatment must be many, and by their very multiplicity they announce that they are in the main unsatisfactory. Then, too, sequelae may persist long after the distinct etiological factor has been removed and thus contribute to the chronicity of the disease.

Tonsillectomy would be advised in every case of arthritis in which pus can be demonstrated in the tonsillar crypts. An optimum time may be chosen, however, so that the operation may not be an added straw to an already breaking resistance. Even when the tonsils appear innocuous their removal is sometimes advisable, especially in cases of cervical or temporomandibular arthritis.

Dental examination and roentgenology is perhaps the next important step. Wholesale extraction of teeth is usually ill advised, but when the combined opinions of the dentist, the roentgenologist, and the physician agree that certain teeth are suspicious, then extraction is in order. Root infections always call for extraction and not treatment, while in pyorrheal infections, teeth may usually be saved by proper and efficient treatment.

With infection of the accessory nasal sinuses as the cause of arthritis, there exists a serious situation, for complete eradication of such a focus is most difficult. In spite of the chronicity of such focal infections and the accompanying arthritis, persistent efforts should be made in treatment, either radical or conservative.

Focal infection of the kidney, bladder, and tubes are seldom important contributory factors, but treatment of infections of the cervix, prostate and seminal vesicles often leads to remarkable improvement.

The gastro-intestinal tract must be considered from two viewpoints—that of focal infection and of toxic absorption. Focal infection, with the possibilities of passage of either bacterial toxin or the organisms themselves, may be present with inflammation of the gall bladder, the appendix, one or more diverticulae, or of the bowel wall itself. In the first two conditions, surgery is probably always indicated; with diverticulitis it is often indicated; but where the infection is in or on the bowel wall, medication, change of flora, bowel lavage or diathermy may be the treatments of choice.

Toxic intestinal absorption again may be considered from two angles—the absorbable toxin may be produced by bacterial decomposition of slow-moving ingested material or it may be produced by incompleted normal digestive processes. In the former instance, change of flora may be made by implants of innocuous saprophytic organisms or by variation of the foods ingested, bowel lavage, increasing the movement of the fecal stream through administration of sodium phosphate, psylla seeds, mineral oil, agar or some such device, abdominal massage or the use of sinusoidal current stimulation.

When the toxin is produced by incomplete digestion, the administration of pancreatin or pancreatin and diastase in enteric coated granules will often so advance the small bowel digestion that complete splitting of the proteins will take place in the proper situation, that is, in the small bowel, and the partially split products will not reach the large bowel where there is no erepsin protective mechanism.

Medication in the arthritides is of relatively less importance than are some of the other methods of treatment. The most useful drug is probably some form of salicylic acid. There seems to be almost a specificity of this drug for acute arthritis and this benefit is quite aside from its analgesic action. Thyroid dysfunctions, as evidenced by a lowered basal rate, accompany many cases of arthritis and thyroid extract may be given to these cases in well-regulated amounts, often with distinct improvement. It is not clear whether this product acts by speeding up the general metabolic processes and thus overcoming a lowered oxidation level or whether the improvement in the joints is due to increased local circulation.

Arsenic in the form of cacodylate is often beneficial, but here the improvement is due to the building of general health rather than to any specific effect on the arthritis. Numberless so-called specific drugs are on the market, but in none have the claims of the manufacturers been properly substantiated.

Diet limitations have undergone many changes in recent years. The strict abstinence from meat is no longer considered wise. There is considerable scientific background for the belief that a low carbohydrate intake is beneficial. Certain it is, however, that the diet must be broad enough in character and ample enough in amount to be one of the factors in increasing bodily resistance, for without general well-being, the fight against arthritis is a losing one. Food allergy plays a part in the arthritic regimen, for in some cases certain foods must be avoided. It has been found, however, that the use of pancreatin often makes it possible for the patient to eat safely many of the disturbing foods.

Nonspecific protein injections, such as typhoid vaccine or milk, have some place perhaps in acute and subacute arthritis, but they are usually of little permanent avail in chronic cases. Vaccine therapy similarly has not fulfilled the expectations of the enthusiasts, even when autogenous vaccine is employed, though the latter occasionally gives striking results. It is probably true that much of the value of vaccine therapy lies in its nonspecific protein shock with its increase in local circulation and temperature. Another biological form of treatment is found in the use of so-called specific antisera and these are sometimes of value.

Physiotherapeutic measures are of great importance for the relief of pain and also for actual improvement of the disease. Baking and infrared radiation are forms of dry heat which stimulate the circulation of both blood and lymph and perhaps raise the oxidation level of the local metabolic processes. Diathermy is another effective form of heat administration. The whirlpool bath, the contrast bath, and the Epsom salt soak are also especially designed to be stimulating to local circulation.

Massage is of great benefit when properly applied and of great harm when used improperly. When given correctly it stimulates the circulation of blood and tissue fluids, and partially takes the place of the muscular exercise which is prohibited by the acute joints. The massage should always be above and below the joints, with the minimum of effleurage over the joint itself. Atrophy of muscles should be treated by massage and active exercises, and limitation of motion by active and carefully guarded passive exercises and stretching.

Quartz lamp, carbon lamp, and heliotherapy are also of distinct value by building up resistance. It must be borne in mind, however, that none of these measures should greatly fatigue the patient, for general health must not be allowed to suffer for even the most important measures of therapy.

The orthopedist with his knowledge of body mechanics is often called into service with the arthritic patient. It is usually to the best interests of the patient to do this early, for an ounce of prevention is worth a pound of cure in the matter of contractures and deformities. Pronated feet, inefficient, unstable or contracted joints, stiffened or crooked spines, atrophied muscles, secondary neuritides—all these conditions need the scrutiny of the competent orthopedic surgeon. The postural aspect of body mechanics deserves the closest attention from trained individuals whether the patient is erect or supine. The orthopedist should see further that inefficient, irritated joints are not used beyond the limits of safe physiological action, for nothing is more destructive to a joint than pushing its use beyond the limits of pain.

In closing, it is to be remembered that general good health and resistance with well-balanced diet and well-balanced therapy are perhaps the most important factors in the treatment of arthritis. Every case is a problem of its own and each regimen must be chosen with the greatest of care and specificity, for there is no routine cure-all for this disease.

1421 State Street.

DISCUSSION

William J. Kerr, M. D. (University of California Hospital, San Francisco).—It is very refreshing to hear a paper such as this one by Doctor Atsatt. In the past too much attention has been given to supposed specific methods of treatment of arthritis, and far too little attention to the care of the patient.

Foci of infecion may not be a chief cause of arthritis. Anyone who has had many patients under observation with arthritis will, I think, be struck by the frequency with which so-called "foci of infection" develop some time after the patient has shown symptoms of arthritis. This would suggest that perhaps the general disturbance which brought about the arthritis also reduced the resistance of the patient to infection which allowed these conditions to arise at a subsequent time. While the presence of foci of infection may further endanger the individual, yet I think it would be unwise to direct our attention to the foci and neglect to improve the general health of the individual.

Practically all of the methods of treatment—*e. g.*, tonsillectomies, extraction of teeth, vaccine therapy, and other forms of "shock therapy"—act very much alike. Something takes place following these procedures which probably leads to vasodilatation through paralysis of the vasoconstrictures, leading to improved peripheral circulation over a considerable period of time. Some authorities go so far now as to suggest that sympathectomies are useful in these cases since they bring about paralysis of the vasoconstrictors and improved circulation to the joints. We cannot be certain that this method of treatment will have more than temporary effect, nor can we be certain what the end results in such cases will be.

I think that Doctor Atsatt has covered well the various methods of attack in arthritis. I have used practically all those which he has enumerated, and have found that if at the same time I pay a good deal of attention to the general health, avoiding fatigue, using a well-balanced diet, taking due care of joints and the prevention of deformities, that the patient will improve remarkably. One always has the hope in the treatment of this disease that if he keeps on doing something rational and which is not in itself harmful and is conscientious about it, bye and bye the patient will improve.

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John C. Wilson, M. D. (1136 West Sixth Street, Los Angeles).—Doctor Atsatt's paper covers a difficult field with extraordinary thoroughness and with commendable conservatism. In the literature on this subject we encounter a varied and confusing array of contradictory opinion, much of which emanates from enthusiastic proponents of some particular method of treatment. In no other condition is there greater need of studying the patient as a whole and of treating the patient instead of the disease. The general health must be improved to the utmost possible degree, full information must be obtained concerning the state of the body metabolism, and obscure etiologic factors must be searched for carefully in order that our therapeutic efforts may be appropriate for the individual case. Our most important and difficult duty in the more severe cases lies in supporting the patient's morale through the prolonged and discouraging ordeal which he has to suffer.

Too little attention is paid to the very important matter of preventing deformities and contractures. If this be kept in mind from the earliest stages of the disease, a great deal of needless disability can be avoided.

Surgery involving arthritic joints requires a nicety of clinical judgment. Surgical intervention following an injury in the presence of chronic arthritis, which is often latent and unrecognized, especially if compensation is involved, is likely to result in a prolonged and intractable disability. After an acute arthritis has become quiescent, however, a great deal of benefit can be derived from operations designed to remedy contractures or deformities and in suitable cases an arthrolysis or synovectomy will result in a remarkable improvement in function. On the other hand, a surgical fusion of a damaged joint frequently offers the best functional result and should be resorted to when extensive erosion of the articular surfaces has taken place.

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Doctor Atsatt (Closing).—I wish to thank Doctors Kerr and Wilson for their discussions.

In closing, I wish to reiterate part of my thesis—that body resistance is of fundamental importance in the treatment of arthritis and overfatigue goes far in breaking down and keeping down the optimum conditions for the arthritic patient.

THE LURE OF MEDICAL HISTORY

DIOCLES OF CARYSTOS, AND HIS LETTER TO KING ANTIGONUS*

By Ethel Gladstone
San Francisco

AMONG the ancient Athenians, Diocles of Carystos in Euboea (who lived in the fourth century B. C.), had the reputation of being a great physician, "second only to Hippocrates." At this distance it is difficult for a fair evaluation to be made of his influence, in comparison with Hippocrates, because so little of his many reputed writings have survived. The authenticity of the fragments of his works which do remain are doubtful in many instances,[1] quite as is the case with much of the *Corpus Hippocraticum*: only a very few of the books in this extraordinary collection could have been written by the same individual, and of these only eight of the best are *believed* by general agreement or convention [2] to have been composed by that idealized "Father of Medicine," Hippocrates of Cos (460-370 ? B. C.). Now Diocles of Carystos is said [3] to have attempted to harmonize the medical teachings of other schools with that of Cos, in fact, to have been the first to use a "Hippocratic Collection," which, it has been suggested, he possibly made himself. Some of the writings of Diocles may thus form a part of the *Corpus Hippocraticum*.

It is only on such an hypothesis that the designation "next to Hippocrates" (Pliny) could now be justified, for what remains associated with his name is so inferior to what we commonly associate with Hippocrates that a comparison is ludicrous.

Wellmann has made the best study of these fragments of Diocles'.[4] From them and from references to him by other writers (Galen), we may reconstruct some idea of his contributions. Apparently he was a "naturalist," and curious about the ways of nature, for he is reputed to have carried on animal dissections, investigating the uteri of horses and mules, and discovering a cotyledonous placenta. He discussed human embryos of an early period in gestation, and felt that both sexes contribute something to the development of the embryo. He was, seemingly, the first to write under the subject "anatomy." The oldest botanical text is supposed to be his book on medical botany which inspired Theoplarastos (372-288 B. C.). Fever he considered as a symptom, not a disease in itself.

From this one would gather a rather respectable opinion of Diocles. But when one examines the fragment ascribed to him, which was the most widely circulated of his supposed writings during the sixteenth century revival, viz., the "Letter to Antigonus the King," one is certainly very disappointed. While this is admittedly only a brief epistle, it is so superficial and confused that at best it can be considered little more than organized folklore. The organization of the discussion according to regions of the body, and then according to symptoms, treatment, and prognosis, is logical, but the material is so "popularized" in comparison with that contained in the Hippocratic writings that the tract gives no real clue to the writer's technical or "scientific" background. The letter can be most charitably considered as the prototype of the famous "School of Salerno." Its authenticity and transmission are unknown.[5] It was in 1572 translated into Latin from some Greek source, which apparently has disappeared, by Antonius Mizaldus, a Parisian physician, who had also a little reputation as a pharmacist and botanist. It may have been Diocles' medical plantlore which attracted Mizaldus. The English translation of this remarkable letter, which is herewith appended, was made from Mizaldus' Latin.

LETTER OF DIOCLES CARYSTIUS TO ANTIGONUS THE KING

The golden letter of Diocles Carystius, physician next to Hippocrates in fame and time, to Antigonus, the King of Asia, "Concerning the prognostics of diseases and extemporaneous remedies for the same through garden herbs," translated from Greek to Latin by the diligence of Antonius Mizaldus, physician.

* * *

"Diocles sends greetings to Antigonus the King.

"Since your erudition has been established as the greatest among all Kings, Antigonus, and no common knowledge of all philosophy and mathematics is attributed to you, in each of which fields you are known to be most brilliant, and by far carry off the palm from all others: therefore, thinking that this kingdom also should be familiar to you, I have wished in this letter of ours to your Majesty, to explain in a few words the branch of philosophy which pertains to the preservation of health, whence diseases take possession of men: both by what preceding indices they may be foretold, and by what remedies they may opportunely be provided for.

"For just as certain signs, not at all obscure, nearly always precede a tempest of the heavens and, by means of these sailors and others experienced in nature's ways, easily deduce what must be done so that they may set out more safely; so, no affection contrary to nature seizes men, unless it has been indicated by certain preceding signs.

"You also, advised by our little precepts about this thing, will not at all scorn to accept them from our open arms, and refuse to observe them exactly.

"We have divided the human body into four parts—Head, Thorax, Stomach, and Bladder.

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* From the University of California Medical School Library.

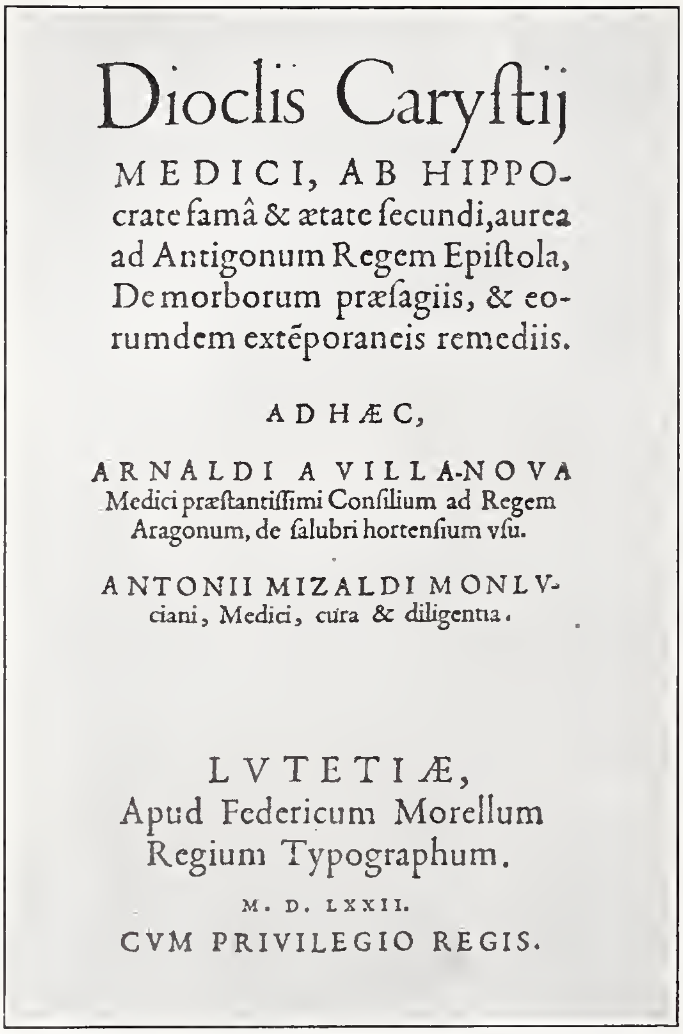
[1] Wellmann, M.: Die Fragmente der sykelischen Ärzte Akron. Philiston, und des Diokles von Karytos: Fragmentsammlung der griechischen Ärzte, Bd. 1, Berlin, 1901.

[2] Sarton, G.: An Introduction to the History of Science, Balt., 1927, Vol. 1, p. 98.

[3] Sarton, G.: An Introduction to the History of Science, Balt., 1927, Vol. 1, p. 121.

[4] Wellmann, M.: See Note 1, and also Hermes, 47:160, 1912; Die Pneumatische Schule, Berlin, 1895; Das Älteste Kräuterbuch der Griechen, 1898.

5. Adams, F.: The Seven Books of Paulus Aegineta, Sydenham Society, London, 1844, Vol. 1, p. 186.



Dioclis Caryſtij
MEDICI, AB HIPPO-
crate famâ & ætate ſecundi, aurea
ad Antigonum Regem Epiſtola,
De morborum præſagiis, & eo-
rumdem extēporaneis remediis.

ADHÆC,

ARNALDI A VILLA-NOVA
Medici præſtantiſſimi Conſilium ad Regem
Aragonum, de ſalubri hortenſium vſu.

ANTONII MIZALDI MONLV-
ciani, Medici, cura & diligentia.

LVTETIÆ,
Apud Federicum Morellum
Regium Typographum.

M. D. LXXII.

CVM PRIVILEGIO REGIS.

Title page of the Mizaldus edition of the Letter of Diocles of Carystos to King Antigonus, as published in Paris in 1572. (From a copy in the University of California Medical School Library.)

THE HEAD

"When any disease is about to seize the head, certain presages and signs are accustomed to predict it, to a great extent. Of this kind are pain and heaviness of the head, all the way to the eyebrows, a murmuring sound in the ears, and throbbing of the temples. The eyes water and are weak in the morning: the sense of smell is deadened, and the gums swell.

"When you notice any prognostics and signs of this kind, the head must immediately be cleared: but no drugs should be used, I say, except the familiar remedies of hysop or origanum, boiled in a little pot with half a pint of raisin wine, with which you moisten the dry mouth until the phlegm is brought up by gargling. This is certainly the easiest remedy for diseases of the head.

"It is very salubrious, too, to wash out the parched mouth with mustard which has been boiled and steeped in warm water mixed with honey, and by gargling with this, to draw the humor away from the head.

"Moreover, the head should first be rubbed very gently, and warmed by some covering, so that the liquified phlegm can flow better, without hindrance.

"Whoever neglects the aforesaid symptoms and the remedies given, certainly knows that he will be liable to get these diseases: ophthalmia, glaucoma, earache, strumae in the neck, decay of the brain, and gangrene, running catarrh, hoarseness, nocturnal angina, lapsus of the uvula, falling out of the hair, ulcers on the head, and toothache.

THORAX

"When the thorax is going to have some disease, it is presaged and foretold by these signs. A certain sweat breaks out continuously over the whole body, but especially in the region of the thorax. The tongue grows heavy, and particles which are salty, bitter, or full of bile are spit out: spontaneous pains spring up in the sides and shoulders, without manifest cause; yawning becomes frequent, there is too much wakefullness, choking spells oppress the patient, and he is thirsty; fatigue and anxiety of mind disturb the chest in sleep, there is lassitude of the arms, and a tremulous affection of the hands.

"All of these are relieved, not unreasonably or imprudently, in this manner. First, vomiting, by no means crapulous, should be provoked and caused by food as far as possible; but without any drug. Vomiting in the morning before breakfast, on an empty stomach, called an emetic by the Greeks, is also beneficial. Whoever has decided to vomit in this way, let him swallow fine little roots, or radishes, cress, colewort, mustard, or purslane, then let him vomit after drinking enough tepid water.

"Those who neglect the prognostics and aids which have been given, may fear these afflictions: pleurisy, inflammation of the lungs, melancholia, high fevers, phrenitis, lethargy, and fever and inflammation, with choking of the pharynx.

THE STOMACH

"If any disease is about to befall the stomach, it is revealed by these symptoms. First, the stomach rolls, murmurs, and is disturbed: there is heaviness of the knees, inflexible rigidity of the spine and loins, with lassitude of the whole body, without manifest cause.

"When you observe these signs, the stomach must be softened and lubricated, certainly not by medicine, but by means of food. For it is better and far safer to use those remedies which cannot easily fail in this purpose. Of this class and number are beets, cooked in water mixed with honey, boiled garlic, mallows, rhubarb, mercurialis, and all seasoned with honey: for all of these expel excrements gently and thoroughly.

"But if any one of these symptoms is increased more and more, administer the liquid of onicus or carthamus, all well cooked; for this is more pleasant and safer. Smooth brassica also is useful, well boiled in water. For a broth of a quarter of a pint of this, or five ounces, drunk with honey and salt, will aid greatly: and equally, boiled cicer drunk in the same measure on an empty stomach: for it has the same effect.

"To those who pay little attention to these signs and remedies, these affections very often come: diarrhea, lientery, volvulus, hip disease or sciatica, tertian fever, gout, apoplexy, hemorrhoids, and arthritis.

THE BLADDER

"Whenever some disease threatens the bladder, it is discerned by these symptoms. After a little food, a sense of fullness is found to annoy: heavy breathing and flatulence appear: belching, and pallor of the whole body. Sleep is heavy and unwholesome: the urine is thin, watery, and is passed with great difficulty, and there are buboes or oedemata about the pudenda.

"When signs and prognostics of this kind are manifest, it will be helpful to use remedies for stimulating and increasing the urine. Parsley and fennel roots, in white wine, fine and fragrant, tender and well cooked, are excellent for this, and may be used without danger: only two cups of broth, or three ounces, should be given daily; obviously, morning and evening, with water of parsnips, myrrh, or *enulae campanae,* whichever of these is at hand, for each of them is equally beneficial. If the sick person will drink the liquid of tender, cooked cicer with wine, absolutely the same result will follow.

"Whoever imprudently neglects the signs and remedies written here, may fear the following diseases: dropsy, tumor of the spleen, liver trouble, lithiosis, nephritis, strangury, colic, and griping of the bowels.

"Besides, in all the signs and diseases which we have mentioned up to this point, it will be suitable to give milder remedies to infants and children, and stronger and more powerful ones to older people."

CLINICAL NOTES AND CASE REPORTS

A CONVENIENT METHOD OF MAINTAINING SPECIMENS OF SEMEN AT BODY TEMPERATURE*

By Samuel Hanson, M. D.
Stockton

In the diagnosis and treatment of sterility, condom specimens of semen have to be used after a considerable lapse of time following ejaculation. Under these circumstances it becomes necessary to find means to protect the specimen against chilling. The following procedure is recommended as a practical solution of the problem of keeping the specimen at body temperature during its transportation to the physician's office.

The condom is freed from air and tied at its open end. The specimen is securely and snugly tied to a hard rubber ring pessary of sixty-five millimeters in diameter, or less. The pessary, together with the condom, is well lubricated and inserted into the vagina. The specimen is left in place until the patient's arrival at the office and until everything is in readiness for the examination or treatment.

The above procedure is so simple that a patient of average intelligence can be readily instructed in its performance.

1009 Medico-Dental Building.

CARBON MONOXID DIABETES

REPORT OF CASE

By Hobart Rogers, M. D.
Oakland

There has recently come to my attention a case of diabetes the onset of which seemed definitely related to an attack of carbon monoxid poisoning.

REPORT OF CASE

J. D. J., a white adult male, aged thirty-five years, referred to me by Dr. Ergo A. Majors, was perfectly well until December 5, 1929. He had, five days previously, passed a life insurance examination which included a urinalysis. On December 5, he was overcome by the exhaust gases of a truck, the exhaust pipe of which was broken in such a way that the exhaust gases were allowed to rise and fill a partially enclosed cab. He was removed to a hospital, where physicians in attendance found glycosuria and hyperglycemia, as well as the presence of carbon monoxyhemoglobin in the blood. He received diet and insulin therapy in the hospital over a period of four weeks.

When first seen by me on January 25, 1930, he was complaining of attacks of sudden onset consisting of amblyopia, nausea, vertigo and headache, lasting from a few minutes to an hour. Symptoms of diabetes such as polyphagia, polydipsia, polyuria, frequency, and pruritus were absent, and, according to the statement of the patient, had never been present.

Except for a possible rheumatic inflammation of a knee at the age of nineteen, this patient had always been unusually sturdy and strong. Two brothers, a sister, and three children were living and well. No case of diabetes had occurred in his family.

Physical examination was indicative of an unusually vigorous physique. His height was five feet ten inches, weight 183 pounds, blood pressure 110/70. The pupillary reactions were normal, and the sinuses transilluminated normally. All the teeth had been extracted and full artificial dentures provided. The tonsils were small and apparently not infected. The thyroid gland was normal in size. The heart, lungs, and abdomen appeared entirely normal. The prostate was small and not tender, and the expressed fluid was normal appearing.

Glycosuria was present. The blood sugar, however, was only 101 milligrams per 100 cubic centimeters. A few days later a carbohydrate tolerance test was performed using a test-meal of 100 grams of glucose. The results were as follows:

	Blood sugar
Fasting	196 mgs. per 100 cc.
One-half hour after meal	336 mgs. per 100 cc.
One hour after meal	300 mgs. per 100 cc.
Two hours after meal	284 mgs. per 100 cc.
Three hours after meal	170 mgs. per 100 cc.

On a diet of carbohydrate 105 grams, protein 75 grams, and fat 180 grams (calories 2340) per day, he required at first twenty-four units of insulin daily. Within three months, he was able to remain free from glycosuria and hyperglycemia on this diet without insulin.

As a part of my search for information, I addressed a letter to Dr. Alice Hamilton. The following excerpt from Doctor Hamilton's letter summarizes well the information available:

"So far as I can ascertain from the physiologists here, the glycosuria which follows carbon monoxid poisoning has nothing in common with diabetes, but is caused by asphyxia releasing adrenal fluid into the circulation, the latter causing discharge of sugar from the liver to the blood. It is always transient, the amount of sugar excreted never exceeds the glycogen content of the liver; it follows asphyxia from other causes, such as oxygen privation, and hydrocyanic acid poisoning.

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* From the San Joaquin General Hospital.

"Experimental work has been done by a number of men, beginning with the great Claude Bernard, who in 1857 told of injecting CO into the right heart in dogs and finding sugar in blood and bile. (Lecons sur les Substances Toxiques, 1857, p. 161.) Richardson (Medical Times & Gazette, 1862, 1, 234) also experimented on dogs and found glycosuria after prolonged administration of CO. Richter (Deut. Med. Wchnschrft, 1895, p. 516) introduced CO intraperitoneally in rabbits and dogs and two hours later found sugar in the urine. More elaborate studies were made by Senff (Inaug. Diss. Dorpat. 1869) who worked with eleven dogs, getting positive results from all but one. Sugar appeared in the urine thirty to sixty minutes after the first inhalation, lasted about three hours reached 1.56 per cent to 4.24 per cent and was favored by low temperature. Albuminuria always went with it. Starving dogs do not have glycosuria. Araki (Ztchft. f. phys. Chemie, 1891 XV, 335) also found the phenomenon only in well-nourished dogs. He obtained it by exposing them to insufficient oxygen as well as to CO.

"Clinical observations are not very numerous. Munzer and Palma (Ztschft f. Heilkunde 1894, XV, 185) say it does not appear in mild CO poisoning. Von Jaksch (Prager med. Wchnsft. 1882, VII, 161) says the amount is in proportion to the severity of the poisoning. He saw the sugar disappear from the urine in eight hours. Naunyn (Diabetes mellitus 1906) says marked glycosuria may follow slight CO poisoning. Ollivier (Bull. de l'Acad. de Med. 1889, 173) says that it is very rare. He himself saw only one case and Brouardel, with his wide experience, had never seen one. Maschke (Prager med. Wchnschft. 1880, nr. 6) found sugar in the urine of two out of twelve bodies of persons dying from CO poisoning. Thomas Oliver (Diseases of Occupation, p. 70) describes one case, a man poisoned from a leaking gas main. In this case, the sugar in the urine persisted three or four days. On the other hand, John Glaister (Industrial Gas Poisoning, 1914) who had great experience with CO cases, never had anything but negative findings. Lewin (Die Kohlenoxydvergiftung, 1920) says the amount of sugar in the urine bears no relation to the severity of the poisoning. How frequent it is, nobody can say, for it is a test that is seldom made. In sixteen cases he found sugar eleven times, albumin three times. When present, it appears either almost at once, or three to five to nine hours later, or even not till the second or sixth day after. It lasts eight hours to twenty-four, rarely up to three days. The amount is usually 0.5 per cent to 2.0 per cent not over fifteen grams in twenty-four hours. Bloch (Inaug. Diss. Leipzig, 1902) studied fifteen cases of CO poisoning, four of them fatal. One of the four had glycosuria, five of the eleven that lived but in two of these, it was only a trace.

"Joslin, in his 'Treatment of Diabetes Mellitus' 1923, says nothing original, simply quotes Mann's article in the Proc. Am. Physiol. Soc. Dec. 1920, as saying that glycosuria, transient, is produced by asphyxia, ether, adrenalin and carbon monoxid poisoning."

I have, however, been able to find in a volume entitled "Kohlenoxydvergiftung" by L. Lewin (Julius Springe, Berlin, 1920) a chapter on carbon monoxid diabetes which contains a case report which I have translated as follows:

"A bricklayer who was fixing a flue, who inhaled chimney gases, and who was unconscious for three-quarters of an hour as a result of it, three days later had no sugar in the urine. After about three months 6 per cent of it was found besides acetone and diacetic acid, and the amount fluctuated between 4 per cent and 9 per cent in three to eleven litres of urine. The largest amount of sugar voided in one day was 660 grams. This was accompanied by great thirst. As singular as this occurrence in itself is, it is possible that its development is originally founded on the basis of a special disposition for the disease in the poisoning."

My patient applied for compensation on account of the occurrence of his diabetes following an industrial poisoning. His claim was denied. It seems to me entirely possible, however, that the diabetes did, in fact, arise out of the poisoning, and that the possibility of the occurrence of disturbances of carbohydrate metabolism should be borne in mind when cases of carbon monoxid poisoning are encountered.

400 Twenty-ninth Street.

AUTOTRANSFUSION USED IN A CASE OF RUPTURED SPLEEN

REPORT OF CASE

By Rollan Walter Kraft, M. D.
Pasadena

This case is reported: (1) to recall the great value and simplicity of autotransfusion in certain cases of massive internal hemorrhage. (2) To emphasize that slight trauma may easily rupture the spleen. (3) To record repeated consecutive blood findings, including red cell fragility tests and cholesterol determinations, before and after removal of an injured normal spleen.

REPORT OF CASE

Admission 61077. The patient, a white male, age fourteen, student, was admitted to the surgical service of the Pasadena Hospital on October 9, 1930, and discharged on October 27, 1930.

Chief Complaint.—Nausea, vomiting, and pain in shoulder.

Present Illness.—He was perfectly well up until 4:15 p. m. of the day of admittance. He rode home from school with two companions, and was in the rear seat of the car when the car struck a "bump." He was thrown to the top, and fell in a "heap" on the floor of the car. His friends told him he was unconscious for five minutes. On gaining consciousness, he felt extremely weak and dizzy, and had a sharp pain in the upper left abdomen. He was taken home, undressed himself in spite of the extreme pain, and went to bed. His father noted that the boy was extremely pale and having cold sweats. Shortly after, he became nauseated and vomited a few times, the vomitus being free of blood. Feeling a desire to defecate, he arose from bed, went to the bathroom, had a copious movement (free of blood), but on attempting to return to bed he collapsed. On a second trip to the bathroom he fainted again. The nausea, vomiting, and pain continued. (The family had had nausea and vomiting the day previous, except the boy, due to poisoned food.) Pain in the shoulders, especially the left, and pain on deep breathing developed and became quite severe about 5 p. m. Then the pain, which had remained in the upper left side of the abdomen, suddenly shifted across the entire upper abdomen, and, a few hours later, to the right lower quadrant. He was seen about 7 p. m. and the parents were told that in all probability the boy had a ruptured spleen and would need immediate surgery.

Examination.—Temperature, 99 degrees; pulse, 112; respiration, 28. Urine: 1035, alkaline, amber, trace of albumin, sugar negative, occasional red blood cell. 9:45 p. m.—Blood: Red blood cells, 5,060,000; hemoglobin, 75 per cent; white blood cells, 14,780; polymorphonuclears, 92 per cent; lymphocytes, 6 per cent; transitionals, 2 per cent.

Date	HB	R. B. C.	W. B. C.	Polys.	Lymph.	Trans.	Nucleated reds	Morphology
10/10/30	71%	3,680,000	15,650	84	12	4		
10/11/30	65%		21,500	88	10	1		
10/12/30	62%		13,500	75	16	7		Anisocytosis
10/13/30	59%	3,120,000	6,600	65	27	7	Few	Poikilocytosis Marked poikilocytosis Acromia
10/18/30	56%		13,700	83	11	5	Few	
10/29/30	69%	4,150,000	13,250*	76	15	2	Few	Polychromatophilia Poikilocytosis acromia

Blood cholesterol determinations:

10/18/30 150 milligrams per 100 cubic centimeters
10/22/30 111 milligrams per 100 cubic centimeters
10/26/30 125 milligrams per 100 cubic centimeters

Determination of fragility of red blood cells:

Initial hemolysis, 0.38 per cent sodium chlorid
Complete hemolysis, 0.28 per cent sodium chlorid

Normal blood showed:

Initial hemolysis, 0.40 per cent sodium chlorid
Complete hemolysis, 0.32 per cent sodium chlorid

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* A few basophils, large monocytes, and eosinophils appeared on this date.

The patient was fairly well developed and nourished, conscious, rational, acutely ill, and in shock. The skin was pale, cold, and moist. The head gave no evidence of fracture. The pupils were regular, equal, and reacted to light and accommodation. The ears, nose, and mouth were negative. There was no rigidity of the neck. The chest showed equal expansion. The lungs were clear and resonant. Blood pressure, 112/80. The abdomen showed marked left rectus rigidity and tenderness when first seen. Later tenderness and rigidity was present across the entire upper abdomen and in the right lower quadrant. Splenic dullness was increased. No shifting dullness was elicited. The rectal examination was negative. The left shoulder was tender on palpation, but offered no evidence of fracture or dislocation. The reflexes were normal. X-ray examination was negative for radiographic evidence of injury.

Operation.—Ethylene gas anesthesia was used. High midline incision was used to open the abdomen. The abdominal and pelvic cavities were filled with blood. A laceration, apparently from the hilus, divided the spleen into two nearly equal parts. The lower pole was also lacerated. The exploration increased the hemorrhage and a transverse incision was quickly made to avoid further hemorrhage during mobilization of the spleen from its bed. The spleen was freed from the diaphragm, the pedicle was compressed by rubber-covered clamps and the spleen removed in the usual manner after the ligation of vessels. During the exploration and throughout the operation all blood in the abdominal and pelvic cavities was removed by aspiration into sterile bottles and citrated. Sixteen hundred cubic centimeters of blood containing 150 cubic centimeters of 2½ per cent sodium citrate solution was filtered (through sterile gauze to remove clots) and reintroduced into the median vein of patient's arm during the progress of the operation. One thousand cubic centimeters of normal saline solution by hypodermoclysis was also administered during the operation. The abdomen was closed in layers, using plain No. 2 catgut for peritoneum, and chromic catgut No. 2 for fascia. The introduction of silkworm figure-of-eight retention sutures and dermal skin sutures completed the operation.

Subsequent Course.—The patient reacted satisfactorily from anesthesia, but the pulse was increased to about 150 for two days and then gradually returned to normal on the sixth day. The temperature reached its highest point (103.5 degrees) on the second day, and then, by lysis, returned to normal on the fifth day. On the second postoperative day, 500 cubic centimeters of citrated blood were administered. The urine was negative, except for traces of albumin and occasional red cells.

The blood picture can be followed in the accompanying chart.

The Wassermann and Kahn tests were negative. The patient left the hospital on the eighteenth day and returned to school during the fifth week.

Comment.—Autotransfusion has also been used in hemorrhage from ruptured tubal pregnancy, ruptured liver and lacerated intra-abdominal vessels, due to direct or indirect violence. It is recommended because of its simplicity and freedom from reactions, occasionally resulting from the use of foreign blood.

First Trust Building.

Device Perfected to Standardize X-ray Treatment.—Unification of all x-ray treatments throughout the United States, and possibly the entire world, is expected to result from the invention and development at the Bureau of Standards of an apparatus for standardizing the method of measuring x-ray "doses," it was stated orally September 17 on behalf of the x-ray section, Bureau of Standards.

Heretofore the various countries of the world have had different methods of measuring x-ray "doses," and attempts toward universal standardization have been largely unsuccessful because of the lack of proper equipment with which to conduct accurate comparisons, it was stated.

Standards Necessary. — The following information was furnished by the x-ray section:

In giving x-ray treatments for cancer, it is very necessary to carefully control the x-ray "dose" given the patient, just as the doctor must carefully regulate the amount of a drug that he administers. This is particularly important where it is necessary to give the greatest possible "dose" of x-rays, for, should the "dose" be too great, burns or more serious injuries might result.

Likewise, it is necessary for the doctors to use some standard "dose" so that it may be easily duplicated in all parts of the country and all over the world in order that their treatments may be reproduced and repeated. At present many doctors use small portable measuring instruments called dosage meters, and it is necessary that these be accurately calibrated.

The instrument developed by an associate physicist in the x-ray section of the Bureau of Standards, Lauriston S. Taylor, enables the accurate measurement of x-ray intensity. The method of measurement consists essentially in allowing an x-ray beam to pass between two metal plates, one of which is connected to a high voltage battery and the other to a sensitive measuring instrument capable of measuring a current of one one-hundred-billionth of an ampere. The x-rays cause the air between the plates to conduct electricity so that a very small electric current flows through this air and is measured by the sensitive meter. This small current of electricity is proportional to the intensity of the x-rays. Thus an accurate knowledge of the x-ray "dose" may be obtained by measuring this electric current.—*The United States Daily,* September 18, 1930.

BEDSIDE MEDICINE FOR BEDSIDE DOCTORS

An Open Forum for brief discussions of the workaday problems of the bedside doctor. Suggestions for subjects for discussion invited.

THE STUDY OF THE PROBLEMS OF STERILITY (NONFERTILITY)—A REVISED CLASSIFICATION

Earl W. Wells, Los Angeles.—Physicians in general agree that there exists at the present time a great need for better and more complete study of the problems of nonfertility. Within the last decade there has been a tremendous advancement in our knowledge of the causes of sterility in both man and woman.

In 1902 Kelling inflated the abdominal cavity with filtered air and attempted to investigate the adnexae by means of a cystoscope. The use of the x-ray was obviously indicated from its wide field of usefulness in other medical specialties. In 1913 Weber used oxygen to inflate the abdominal cavity and reported upon pneumoperitoneal x-ray methods. Carey in 1914 demonstrated the patency of the fallopian tubes by injecting a solution of collargol through the uterine cavity. He was impressed with this nonoperative method and reported that he was able to diagnose the patency of one tube and the occlusion of the other. Isadore Rubin in 1920 reported a series of fifty cases in an article entitled "Nonoperative Determination of the Patency of the Fallopian Tubes by the Inflation of Oxygen Through the Cervix." Since that time the diagnostic procedure has received wide recognition; the technique, the indications, the contraindications, pelvic pain, shoulder pain, pneumoperitoneum, have all been widely studied. The usage of various gases, opaque emulsions and metallic solutions, have received great investigation in many hands. At the Woman's Hospital in New York City there was established a large clinic in the out-patient department solely to study this phase of sexual dysfunction, and very careful investigations, including peruterine gas insufflation tests, were made on over one thousand sterile women. Such records serve to impress us with the fact that while the advent of women into the business world has brought about the need for contraceptives, still, there exists today, as always, that great fundamental requirement of nature, the desire for reproduction.

Any couple who has lived according to the marital laws—the wife a virgin at the time of her marriage, the husband patent and free from venereal infection—has a right to demand of the modern doctor a searching investigation for the cause of their nonfertility. In the past the solution of such a medical problem has proved a very difficult one for the physician. The history was usually negative; the physical examination frequently revealed only a normal appearing introitus, the cervix looked normal, uterus in fair position, and he could feel no mass in either adnexae. He had honestly to admit that he could find no cause for their sterility and he certainly could offer no hope. It is with the humble hope that we physicians of today, building upon the excellent foundation of this recent research, may be of more service to humanity that I present this revised classification. It is in outline form so as to be brief and to the point.

Definition—Inability to conceive or impregnate.

A marriage is considered sterile where no pregnancy has occurred within three years in the absence of use of contraceptives.

Etiology—Male: General history and physical examination.

1. Sexual activity and examination: Genitalia, prostate, etc. (endoscope).
2. Semen specimen; examine within two hours; gross characteristics; microscopic with low and H. P. on warm stage; activity. Stained specimen.
3. Huhner's test: Examine spermatic specimen taken from inside cervix four to eight hours after intercourse microscopically on warm stage.

   Activity:

   1. Active normal spermatozoa absolves the husband.
   2. Vaginal and cervical secretions not inimical to spermatozoa.

      Absence of spermatozoa-Azoöspermia: Must examine further specimens from husband; condom or bottle specimens.

   Inactive or necrospermia:

   Live sperm may have been killed by acid secretion or lytic action of female discharge—obtain specimen from "seminal pool" in posterior fornix within hour after coitus.

When husband is absolved, classify female causation:

Female:

I. Primary Sterility — Conception has never occurred.

A. General Causes:

1. Congenital—disturbances of endocrine system.

a. Myxedema.
b. Acromegaly.
c. Other endocrinopathic states.

2. Acquired—also may include endocrine factors and occur shortly after onset of puberty.

a. Obesity.
b. Chlorosis.
c. Diabetes.
d. Exophthalmic goiter (Grave's disease). Often in early stage.
e. Chronic nephritis—albuminuria has a marked deterring effect.
f. Syphilis—Mainly a factor in abortions and stillbirths.
g. Tuberculosis—general changes in blood and nutrition.
h. Other infectious diseases—mumps and scarlatina damage ovaries.
i. Chronic intoxications (lead, morphin, etc.), amenorrhea.

B. Local Causes:

1. Congenital.

a. Malformations and defective reproductive organs.
b. Infantilism — arrested development or hypoplasia of reproductive organs, atresia; stenosed or pin-hole cervix; dysmenorrhea.

      c. Tumors—fibroids, carcinoma, etc.
      d. Hymen — occluded entrance; fibrous rigidity.
    2. Acquired.
      a. Gonorrhea.
      b. Tuberculosis, inflammatory changes in tubes, ovaries, peritoneum.
      c. Catarrhal conditions — normal alkaline mucous plug of Kristellar changed by infections producing acidity; irritations produced by strong douches and contraceptives in endocervix and tubes.
      d. Displacements.
      e. Traumatic or operative (including radiations).

II. Secondary (one child) Sterility—Nonfertility following a pregnancy more than three years previously in absence of use of contraceptives.
  A. Infections.
    1. Abortal and puerperal sepsis.
    2. Gonorrhea.
    3. Subinvolution—often overlooked.
  B. Traumatisms.
    1. Perineal and cervical lacerations—semen not mechanically retained.
    2. Urinary fistula, etc.
  C. Displacements, frequency after first pregnancy; rôle of faulty obstetrics.
  D. Atrophy of uterus.
  E. Operative—including radiations.

III. Functional Disturbances.
  A. Frigidity.
    1. Ab libido—absence of desire; congenital or acquired.
    2. Ab voluptas—absence of orgasm.
  B. Dyspareunia.
    1. Psychical—aversion to husband or pregnancy.
    2. Physical—pain extinguishes desire; vaginismus.
  C. Effluvium seminis—semen expelled by an involuntary or reflex spasm of muscles occurring in hysterical or neurotic women.
  D. Genital spots of Fliess—Anterior half of lower turbinate and the tubercle of septum; cocainize, cauterize. Frequently associated with backache or dysmenorrhea.

Treatment—Depends on causation. Aims — corrections of defects; cure of pathology; stimulation of genitalia.
  A. Of General Causes: Restoration to normal; exercise, diet, drugs, blood transfusion, ultraviolet radiation.
  B. Of Local Causes:
    1. Introitus—correction of defects, sensitivity, vaginismus.
    2. Cervical.
      a. Endocervicitis—treatment as indicated.
      b. Mucous secretions—drugs, electrotherapy, suction, tamponage.
      c. Occlusion—dilation where indicated.
      d. Surgical—repairs, incisions, cautery, etc.
    3. Uterus.
      a. Displacements—manual, pessaries, surgical.
      b. Diagnostic curettage where indicated.
      c. Myomectomies.
      d. Stimulation—drugs, electrotherapy.
    4. Tubes.
      a. Peruterine insufflation.
        Diagnostic: Definite technique required; signs and symptoms.
        Therapeutic: Balloons out tubes; to overcome spasm, stricture, remove mucous, stimulate peristalsis. Use three to five days after each menstrual period on four to six consecutive months.
      b. Uterosalpingography — great value following gas insufflation as visualizes uterus and tubal condition.
      c. Surgical — salpingostomy, followed by uterine insufflations.
    5. Ovaries.
      a. Medicinal and electrotherapy treatments may stimulate.
      b. Ultraviolet and x-ray stimulation radiation.
      c. Surgical—remove adhesions, pathology; correct displacements.
  C. Special Measures.
    1. Stimulation of genitalia—hot douches, Seitz baths, etc.
    2. Electrotherapy—diathermy, faradic, ultraviolet, x-ray.
    3. Drugs—general and local uses; endocrine therapy still too indefinite and haphazard except for special indications.
    4. Blood transfusions: for ovarian hormone. May be obtained from healthy female donor in premenstrual-menstrual phase or hormone obtained after method of Robert T. Frank.
    5. Artificial insemination (peruterine method).

* * *

Henry. N. Shaw, Los Angeles.—I think that Doctor Wells has given us an excellent outline of the steps necessary to determine the possibility of a pregnancy. In fact it would be a valuable thing to keep such a concise presentation of the problem in our offices to show the patients who come to us for advice.

I especially approve of the fact that he takes up, first, the male side of the problem. It is surprising how many husbands are willing to have very extensive studies made on their wives, from Rubin tests to abdominal operations, but those same individuals will not even allow an examination of their own semen. I always explain that the husband should be examined first, and in three cases the wife has come back later and explained that her husband felt he could not stand the shock of finding that he was impotent.

There are certain cases where the various adverse factors covered in Doctor Wells' outline can be ruled out, and yet the woman does not become pregnant. It has occurred to me that this might be explained by a study of the blood grouping of the individuals. Where a husband and wife are in the same group, the male semen might live in the female serum, around the ovary, for several days. According to recent observations by Pratt, Allen, and Newell, the ovary puts out one ovum a month, usually from about the twelfth to fourteenth day after the close of a menstrual period. Depending on the relations of the husband's and wife's blood groups, the male spermatozoön would live a longer or shorter time. If they belonged to absolutely opposite groups, the male cell would be destroyed before it crossed the uterine cavity. In other groups it might live from several minutes to several hours. For impregnation to take place, ovulation would have to occur practically at the time of arrival of the spermatozoa in the region of the ruptured follicle.

This would explain cases where apparently normal mates, who had had no children, separate, remarry, and both have children. It would explain single pregnancies, or pregnancies at widely separated intervals.

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Contributions—Exclusive Publicaton.—Articles are accepted for publication on condition that they are contributed solely to this journal.

Leaflet Regarding Rules of Publication.—California and Western Medicine has prepared a leaflet explaining its rules regarding publication. This leaflet gives suggestions on the preparation of manuscripts and of illustrations. It is suggested that contributors to this journal write to its office requesting a copy of this leaflet.

EDITORIALS*

THE SIXTIETH ANNUAL SESSION OF THE CALIFORNIA MEDICAL ASSOCIATION

The San Francisco 1931 Annual Session of the California Medical Association Was a Success.—The San Francisco County Medical Society, on April 27-30, 1931, acted as annual session host of the California Medical Association for the twenty-fifth time, and made the sixtieth annual reunion, which was this year held at the Hotel Fairmont, one long to be remembered. There was an excellent attendance, a splendid series of general and section meetings and of clinics, and these, with the social gatherings, were all carried through with vim and vigor. The Association is indebted for much of the success of the meeting to the efficient local committee of arrangements, of which Dr. T. Henshaw Kelly of San Francisco was chairman.

This year's reunion demonstrated that an annual session could be held successfully in a metropolitan center, provided that most of the visiting members could be housed under the same roof. The historic Hotel Fairmont possessed such facilities. Its location and roominess gave much the same atmosphere that has endeared the Hotel Del Monte at Del Monte and the Hotel Del Coronado at San Diego to California Medical Association members who attend annual sessions.

Hotel Huntington at Pasadena to Be the 1932 Annual Session Headquarters.—The members of the House of Delegates evidently held a somewhat similar opinion, for in voting to go to Southern California for the 1932 annual session, the House of Delegates, instead of choosing one of the large Los Angeles hotels as the official meeting place, gave its decision for the Hotel Huntington in Pasadena.

The appointment of the local committee of arrangements was given over to the Los Angeles councilors, they in turn deputizing Dr. Fitch C. E. Mattison of Pasadena, who was president of the California Medical Association in 1914, to take over the responsibility of detailed arrangements.

Located as is the Hotel Huntington, in the San Marino district of the beautiful San Gabriel Valley and in close proximity to the world-famous Huntington Galleries, it may be taken for granted that the 1932 annual session will make an earnest bid to maintain the standards of annual sessions of the past, and especially so since this will be the first time that our colleagues of Pasadena will have had the honor to act as hosts to the California Medical Association.

* * *

The New President-Elect of the California Medical Association: Dr. Joseph M. King of Los Angeles.—In the California Medical Association column of the May California and Western Medicine, page 384, was given a partial list of officers who were elected at San Francisco. The minutes of the House of Delegates and Council, printed in this number of California and Western Medicine, give further information in regard thereto.

The new president-elect of the California Medical Association, who becomes the eleventh Los Angeles physician to receive the honor of the presidency of the California Medical Association, is Joseph M. King of Los Angeles, a graduate of the old College of Medicine of the University of Southern California, class of 1895. Doctor King is one of Southern California's prominent physicians and has a long and creditable record of service for organized medicine.

Los Angeles County will also have the distinction of being able to present, next year, the senior living ex-president of the California Medical Association, Dr. William LeMoyne Wills, a graduate of the University of Pennsylvania, 1882, who was president of the Medical Society of the State of California in 1896, and who is himself a resident at San Marino, where the Hotel Huntington is located.

* * *

Good Wishes to Officers Are Again Extended.—As stated in last month's California and Western Medicine, the good wishes of the members of the Association are extended to the new officers and committeemen, in fullest belief that they will all strive to perform their respective duties with credit to themselves and to the benefit of the principles and activities for which the California Medical Association exists.

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* Editorials on subjects of scientific and clinical interest, contributed by members of the California Medical Association, are printed in the Medicine Today column which follows.

The *Pre-Convention Bulletin* contained reports of the officers and committees of the fiscal year just closed, and these are printed in this number of California and Western Medicine as an appendix to the minutes of the House of Delegates. An inspection of those reports, condensed and brief as they are, will give those members who are interested in the issues which confront organized medicine, somewhat of an insight into the scope and seriousness of many of the professional and economic problems which the medical profession of today must try to solve.

* * *

House of Delegates Was Alert to Modern-Day Needs.—That the members of the House of Delegates were alert to the significance of these problems and the need of maintaining active and militant efforts to meet the issues confronting the medical profession was evidenced by the action taken by the House of Delegates when the recommendation of the Council that the annual state association dues or assessment be reduced from ten to eight dollars was amended on the floor, and the annual dues maintained at ten dollars. It now devolves upon the Council to bring into being California Medical Association activities which will make such an excellent showing in the upbuilding of the organization that the action which was taken by the members of the House will have been more than justified.

* * *

Perusal of House of Delegates and Council Minutes Will Give Details of Business Transacted.—A perusal of the minutes of the House of Delegates and Council, as printed in this number of California and Western Medicine, will give details of much other important business which was considered. Among such may be mentioned a Cancer Commission of the California Medical Association. But of this and other matters, more in later issues. For the moment it suffices to know that this year's annual session was carried through in real harmony and success from start to finish, and that the actions which were taken will undoubtedly make for a stronger and more efficient California Medical Association. Let all members who can possibly arrange their work, look forward to being present at the sixty-first annual session of the California Medical Association to be held next year at the Hotel Huntington, on a date to be selected later by the Council.

CALIFORNIA AGAIN PIONEERS: WITH STATE MEDICAL LIBRARIES

The Original Suggestion for County Hospital Libraries.—In the October 1928 issue of California and Western Medicine the editor discussed the possibility of instituting county medical libraries in connection with the county hospitals of California, the funds for the institution and maintenance of such libraries to come from nominal fees granted to members of attending staffs, for professional services rendered. The thought was to have such fees authorized by the county boards of supervisors to members of attending county hospital staffs, as a gesture of appreciation for the altruistic services rendered by the attending physicians and surgeons in the care of indigent sick citizens of the respective counties.

The editor still believes that the above plan for county hospital libraries could and should be carried out in certain counties. However, as things actually stood two years ago, it did not seem wise to expend too much effort on these county library ventures or plans, for it became evident that a proper educational background was necessary before a successful result could be obtained.

* * *

A State Medical Library First Proposed in the November 1928 California and Western Medicine.—The county library plan above noted suggested to the mind of the editor what seemed to him an even better library plan for the moment, namely, a California State Medical Library. The groundwork of the plan which he had worked out for such an institution he first presented in the opening editorial of the November 1928 issue of California and Western Medicine, page 343. The subject was discussed also in the issues of March 1929, page 191; May 1929, page 357; December 1930, page 893; April 1931, page 284, and May 1931, page 380. The comments made in those editorials practically give a brief history of the initiatory steps and experiences.

* * *

The State Medical Library Bill of Two Years Ago.—The plan for a state medical library seemingly having considerable merit, it was decided two years ago to present to the forty-eighth California Legislature of 1929 a proposed act which would establish a state medical library. At that session of the Legislature, however, considerable opposition was encountered and the bill never went on to passage.

* * *

The State Medical Library Bill of this Year, Which Was Passed by the Assembly and Senate.—When the present forty-ninth California Legislature convened in January of this year 1931, the editor again secured the endorsement of the Council and of the Committee on Public Policy and Legislation for a new library bill, modeled somewhat after its predecessor of the succeeding session.

After its introduction into the Assembly it was found that the California Department of Education, which has a division of libraries that supervises the California State General Library at Sacramento, was opposed to assuming any responsibility for a state medical library. It was also learned that the authorities of the University of California, in whose buildings it was proposed to house the library or libraries, also objected to assuming any responsibility for a state medical library if the Regents were not in complete control thereof. After conference with President Robert G. Sproul of the University of California the editor rewrote the bill and submitted the re-draft to the authorities of the University. This re-draft was gone over and with the sanction of President Sproul the proper amendments were then made to the bill which had been previously introduced.

It is this particular Assembly bill as amended which went on to passage in the Assembly on May 5, 1931, and which in the Senate went on to passage in the hectic last hours of the forty-ninth session, being of passage as of May 15th.

* * *

The "Assembly Weekly History" Synopsis of Assembly Bill 477 (Nielsen) for a State Medical Library.—The *Assembly Weekly History* of date of May 15 gives the almost complete record of this state medical library act (Assembly Bill 477—Nielsen), and it is here reprinted as a matter of historical record:

477—Nielsen, January 20. To Committee on Medical and Dental Laws.

An act to create a State Medical Library under the direction of the regents of the University of California, providing for the establishment of branches of said library and for the administration, maintenance, and support of the same, and making an appropriation therefor.

January 20—Read first time. To Committee on Revision and Printing. From committee. To printer.

February 24—From printer. To committee.

March 19—From committee without recommendation, as amended.

March 20—Read second time. Amended. To printer.

March 23—From printer. To engrossment.

March 25—Reported correctly engrossed.

March 26—Re-referred to Committee on Medical and Dental Laws.

April 24—From committee with recommendation: Do pass as amended.

April 27—Read second time. Amended. To printer.

April 28—From printer. To reëngrossment.

April 29—Reported correctly reëngrossed. Re-referred to Committee on Ways and Means.

April 30—From committee with recommendation: Do pass.

May 1—Read second time.

May 5—Read third time. Passed. Title approved. To Senate.

May 6—***In Senate.*** Read first time. To Committee on Universities and T. C.

May 8—From committee with recommendation. Be re-referred to Committee on Finance.

May 11—Read second time. Amended. To printer. From printer.

May 12—From committee with recommendation: Do pass.

May 13—Read second time.

May 14—Read third time, passed, title approved. To Assembly.

May 14—In Assembly. To enrollment.

May 15—Reported correctly enrolled. To Governor at 3:55 p. m.

At the time these comments are being written, by referring to the above synopsis it will be noted that the measure, having passed both Assembly and Senate, is now awaiting consideration by Governor James J. Rolph, Jr., and it is hoped that he will sign the measure and let this bill become a law. If Governor Rolph attaches his signature before these lines go to press for the June California and Western Medicine, a notation to that effect and comments will be made below.

Thanks to Those Who Aided in the Passage of Assembly Bill 477 (Nielsen).—A few words of thanks should now be very much in order to some of those to whom the medical profession should feel indebted for this beneficent measure that places such a forward, constructive step in medical education and public health work to the credit of California.

* * *

The Board of Medical Examiners of the State of California Gave Early Coöperation.—As was mentioned in previous issues of California and Western Medicine, the funds to institute this library came from the reserve funds of the Board of Medical Examiners of the State of California. Those contingent funds contained no tax moneys, but only funds accruing from license and similar fees received from physicians. The editor was obliged, therefore, to first secure the sanction of the members of that board to the plan of having a considerable sum of money withdrawn from its jurisdiction.

For the willingness of the members of that board to consent to such withdrawal, provided their own needs and functions were not imperiled, thanks are here given. Had the members of that board not taken a generous and broad view of the project the plan must of necessity, almost in its very beginning, have come to naught. So for that coöperation, thanks are here expressly and again given.

* * *

Assemblyman Roy Nielsen, Sponsor of State Medical Library Bill (A. B. 477).—To Assemblyman Roy J. Nielsen of Sacramento, who sponsored Assembly Bill 477, and who acquainted himself with all the necessary facts, fighting it through the different committees, watching its course at every step in Assembly and Senate, and making argument presentations on its behalf which could not have been surpassed by its medical proponents, special thanks are due and are here given. Assemblyman Roy J. Nielsen has been a real friend and we commend him to the members of the California Medical Association, and especially to the members of the Sacramento Society for Medical Improvement (our pioneer component county medical society which has been permitted to retain its historical name), because it is the Sacramento colleagues who live in Assemblyman Nielsen's district and who should remember him in the future when return courtesies may be in order.

* * *

Coöperation of Colonel Carlos Huntington, Director of the Department of Professional Standards.—After our friends in the California Department of Education had been placated by placing the proposed library under the sole jurisdiction of the University of California, a new storm center arose in the person of Colonel Carlos Huntington, Director of the Department of Professional and Vocational Standards, who naturally objected to inroads being made on the contingent funds of any of the almost two dozen examining boards in his department. Colonel Huntington had gone on record as opposed to Assembly Bill 477, and if he had maintained that attitude the bill probably would never have gone on to passage. In a conference with the editor, Colonel Huntington discussed the measure in kindliest fashion, and after conference put forth the counter proposition that the initial appropriation or allocation be reduced from seventy to fifty thousand dollars. This was a generous and broad-visioned action on Colonel Huntington's part and made possible for the first time the real possibility of passage of the measure in the present session of the Legislature. To Colonel Huntington, therefore, the medical profession is also indebted.

* * *

The Notable Service Rendered by Dr. Junius B. Harris, President of the California Medical Association.—And now comes one other person, who through his whole-hearted influence and efforts largely made possible the passage of Assembly Bill 477. This is none other than our colleague, the President of the California Medical Association, Dr. Junius B. Harris of Sacramento, who, as chairman of the California Medical Association Committee on Public Policy and Legislation, was acting as the watch guard of the medical profession's interests at Sacramento. It was Doctor Harris who selected Assemblyman Nielsen to sponsor the bill, and it was Doctor Harris who also watched the measure at every turn. The task of Doctor Harris was particularly hard because in fighting other measures which were inimical to the best interests of the medical profession and the public health, he naturally brought down upon himself the opposition of the proponents of those measures which he had so successfully fought. To have been militant in so many directions and yet to have so conducted himself as not to have brought violent opposition into being for anything he particularly espoused, is a real tribute to his finesse and generalship. The California Medical Association may take real pride in this splendid service which President Harris has again rendered on its behalf.

* * *

The Coöperation of Other Friends.—Mention cannot be made here of all others who gave aid, for the outlook was not overbright at the outset, and certain influential sources of aid were solicited. The editor would be derelict, however, did he not mention the support given him by Doctors Walter B. Coffey, John H. Graves and John Gallwey, all of San Francisco, and each a friend of Governor Rolph, who acquainted Governor Rolph with the purposes and merits of Assembly Bill 477 in such manner as to secure his kindly attitude.

* * *

The Text and Scope of the Bill.—Space will not permit a discussion in this issue of CALIFORNIA AND WESTERN MEDICINE of the text and scope of the bill. But inasmuch as the measure will not become a law until ninety days after signature by the Governor, there will be ample opportunity to again present the subject.

In the meantime the above facts are given to the members of the California Medical Association. No apology is made for the space used in CALIFORNIA AND WESTERN MEDICINE for that purpose. For as time goes on, the bigness and capacity for service which this state medical library, with its major branches at San Francisco and Los Angeles, will render the members of the medical profession and indirectly the people of California, will be more and more realized by physicians. Moreover, the story, as here outlined, will show how many and great are the trials and tribulations in the handling of legislative programs.

It has taken the California Medical Association all of seventy-five years to accumulate in its reserve fund twice the amount of this initial state library appropriation of fifty thousand dollars. Here comes now this splendid state institution which should go on year after year, giving increasing service to the medical men and women and to the people of this great State of California. It is surely a something to be grateful for, and it is at the same time a tangible something that is a variation of the accepted attitude of the great lay public which accepts gratuitous services from the medical profession, and so often gives little or no real thanks in return.

If Governor Rolph signs Assembly Bill 477, as we hope and believe he will do, and if he does this before the June issue of CALIFORNIA AND WESTERN MEDICINE goes to press, we shall be doubly happy to write a further paragraph before bringing these present comments on this library bill to a close. Pending such action by the Governor we pause and mark time, but in real optimism for the ultimate outcome.

CORPORATIONS CANNOT PRACTICE MEDICINE FOR PROFIT IN CALIFORNIA: S. B. 175 (FELLOM) DEFEATED

Senate Bill 175 (Fellom): Which Would Have Given Corporations the Right to Practice Medicine for Profit.—The particular bill which was presented to the legislature which has just adjourned, and which from the standpoint of infringement on the rights of physicians gave the officers of the California Medical Association the greatest concern, was the proposed law known as Senate Bill 175 (Fellom). That measure was introduced by Senator Roy Fellom of San Francisco.

The vicious nature of some of the provisions of that bill was indicated in this column in the CALIFORNIA AND WESTERN MEDICINE issues of April, 1931, page 283, and of May, 1931, page 379.

This S. B. 175 (Fellom), had it been enacted into law, would practically have nullified the rulings of Superior Court Judge Samuel R. Blake which were outlined in California and Western Medicine of November, 1930, page 846. Senate Bill 175 would have thrown wide open the door to lay corporations existing for the primary purpose of making money out of the care of sick and injured persons, and would have given such corporations legal recognition to practice medicine. And this in practically as full power as is granted to medical men and women who, to become eligible to take examinations to secure licenses for legal recognition to practice medicine and surgery, must go through years of study, with expenditure of thousands of dollars, to acquire what is construed to be adequate knowledge and training for the practice of the healing art.

* * *

The Struggle Against Senate Bill 175 (Fellom) Was Constant and Difficult.—The California Medical Association Committee on Public Policy and Legislation had a constant battle on its hands in giving opposition to this measure. That it ultimately went down to defeat in the Senate Chamber is a tribute not only to the California Medical Association Committee on Public Policy, but to the county committees and colleagues who in all parts of California contacted with their respective state senators and acquainted them with the real facts at issue. Here was an instance where constructive and united effort by the medical profession was able to overcome a destructive onslaught from lay sources. It was a hard-fought battle, but the end results justified all the efforts expended.

* * *

Similar Bills May Be Expected at the Next Legislative Session: Present Work for Component County Societies.—For the time being, the victory is ours, but it will be surprising if a similar bill or bills do not present themselves again when the next legislature meets two years from now.

Which emphasizes the adage, "In times of peace, prepare for war," and the application of which is, that all members of the California Medical Association should resolve to take somewhat more of a direct interest in civic politics, at least to the extent of knowing who the present legislators are, what have been their records in the recent legislature on public health matters, and what should be the attitude of members of the medical profession when such legislators come up for re-election. In such a program the initiative should be taken by the county society committees on public policy and legislation and by the officers of component county societies, who in their reports of their own work could acquaint the members of their respective societies regarding these matters.

For the benefit of those who may have overlooked the lists, mention is here made that the complete roster of our present legislators was printed in the March California and Western Medicine, pages 224 and 225. When these Assemblymen and Senators return to their home communities, seek out those who gave aid in medical and public health work and express your appreciation for such coöperation.

* * *

What Happened to the Proposed "Licensure of Clinics" Bill: County Society Studies on Clinics.—Some members of the California Medical Association who are interested in the "clinic problem" of California (which was reported on in some detail by Dr. John C. Ruddock in the July California and Western Medicine, page 527), may wonder why no bill was introduced in the recent legislature to provide for licensure and supervision of clinics.

Mention was made in the April 1931 California and Western Medicine, on page 285, that such a bill was in preparation.

As a matter of fact such a bill was drafted and was ready for introduction when it occurred to the officers of the Association and to the Committee on Public Policy and Legislation that if such a measure was introduced it might have been seized upon by the proponents of Senate Bill 175 (in case that measure went down to defeat), and be so amended as to secure almost the same end objects as those intended and incorporated in Senate Bill 175.

Therefore, from the standpoint of good tactics, it was unanimously decided not to introduce such a clinic licensure bill in the 1931 session of the legislature.

Here again physicians have an excellent example to show how difficult it is at times to bring into being reforms upon which all are seemingly agreed as being necessary. In this particular case, had such a clinic bill been seized upon by the proponents of Senate Bill 175, the damaging end results to the public health and medical interests of California would have been far greater than can accrue through clinics now in operation.

The clinic problem will continue to be a subject of earnest study by the officers of the California Medical Association. The work done this year in the preparation of such a proposed law has not been wasted. Component county societies can render efficient aid by making investigations of the clinics in their respective communities and forwarding copies of their reports to the central California Medical Association office at San Francisco, so that the same may be referred to the proper California Medical Association officers and committees for further consideration. The earlier these investigations are started in the different counties, the greater will be the opportunity to render effective service when the time for further action arrives.

THE LOS ANGELES COUNTY GENERAL HOSPITAL HEARING

Presentation of the Los Angeles County Hospital Case in Last Month's "California and Western Medicine."—In last month's issue of this journal, page 376, the controversy (for so it might be called) which has been going on at the Los Angeles County General Hospital was commented upon. It was stated that County Supervisor Frank Shaw had filed charges against the hospital superintendent, Dr. Neal N. Wood, and that the Board of Supervisors on April 23, 1931, would commence a hearing on the charges. It was also stated that the hearing would probably be finished before the May number of California and Western Medicine reached its readers.

Alas, such was not the case. The hearing is still on and we fear now to prognosticate that the crisis will be completely over before even this June California and Western Medicine is placed in the mails.

* * *

Since Others Broadcast Their Opinions, the Medical Profession, With Its Special Rights, Can Surely State Its Own.—In a desire to observe the proprieties supposed to exist when a case is still in court (although in this instance only the Board of Supervisors are the court, sitting en banc in a superior court chamber for the greater edification and comfort of constituent citizens), the editor last month stated that little or no comment would be made in the May California and Western Medicine on the issues at stake.

Since then we have listened in on a radio broadcast from a Los Angeles representative of the cloth who has brought much attention to himself and his radio station through the somewhat violent nature of some of his air-wave promulgations. Having heard how fearlessly, while the case is still pending, he discussed the Los Angeles County Hospital and the members of the Board of Supervisors in their functions as judges, and noting no protest to his criticisms by the Honorable Supervisors, we know no reason why some dispassionate comments may not now be made in this journal. Especially since the questions at issue largely resolve themselves into a matter of hospital costs and management, a something in which members of the medical profession, for many reasons, have a right to be naturally interested.

* * *

The Unwarranted Exploitation of Unproven Figures Regarding Thievery in the Hospital.—The charges of Supervisor Shaw against Superintendent Wood were outlined in the newspaper excerpts printed in the May California and Western Medicine.

One of the primary reasons why members of the attending staff and of the Los Angeles County Medical Association went to the defense of Doctor Wood, who is a Civil Service employee, when the attempt was made early in April to unceremoniously oust him, was probably the super-exploitation and repetition of the statement in the newspapers, presumably given out by those who brought the charges, that something like five hundred thousand dollars ($500,000.00) of supplies had been stolen from the hospital in the last nine years. On its face, to those who knew the nature of the county hospital furnishings and equipment and their cost, such a figure seemed almost absurd. Nevertheless it was put forth in the daily press day after day as if it had been fully proven. The Los Angeles County Medical Association, as noted in one of the excerpts printed in the May California and Western Medicine, styled the thefts as petty pilfering, of the kind to be expected in an institution of almost two thousand employees, a considerable number of whom were probably appointed for political and similar reasons.

It is gratifying to state that after several weeks of submitted evidence by Supervisor Shaw's detectives, that no substantial evidence was brought forward to prove that nothing like five hundred thousand dollars ($500,000.00) of such petty pilfering had taken place, and further, that the charges of extensive thievery were neither proven nor pushed.

The sad part of this phase of the investigation was this, that the publicity as originally given out, by inference almost hung this five hundred thousand dollars of supposed thievery on the medical superintendent and supervising medical personnel of the institution, casting its stigma of reproach and incapacity on practically the entire Los Angeles medical profession.

* * *

The Atrocious Reflections Were Not Proven.—Such an atrocious reflection on a profession whose members, as attending staff members, at most nominal rates for medical and surgical services, give something like five hundred thousand dollars ($500,000.00) yearly in gratuitous services to the indigent patients of the institution, could not be passed by without protest and demand for proof. It is therefore pleasing to be able to state that these indirect and most unjust reflections on the medical profession had no real basis, and there certainly seems little excuse for those who gave out the wild figures which were put forth in the public press.

* * *

An "Amicus Curiæ," or Friend of the Court, Appears to Lead the Prosecution.—One of the very interesting developments of the situation was the appearance upon the scene, when the hearing opened, of one of Southern California's foremost attorneys, who has a large reputation in criminal practice, and who came into the picture as a sort of *amicus curiæ*, or "friend of the court." In this hearing he has conducted the examinations and cross-examinations with all his usual acumen. This particular attorney is reputed to draw down handsome compensation for every day he appears in court; but in acting as sponsor for the prosecution in this case, in which he is reported to have stated he receives little or no money compensation, he seems oblivious to the large amount of time and effort he is using in his noble efforts to safeguard the public's interests. Mention is here made of this because our legal brethren, unlike their medical fellows, are not so often given to thus donating altruistic services, and it is worthy of comment when an attorney, prominent in criminal practice, sets so laudable an example for his legal brethren.

The legal department of the county of Los Angeles has seemingly kept itself in the background so far as may be inferred from accounts in the public press.

* * *

The Attorney "Friend of the Court" Drags in the "College of Medical Evangelists" and Its Teaching Work as an Unjust Expense to the Taxpayers.—Among other things which this attorney dragged on the stage was a group of statements or charges which seemingly implied that the College of Medical Evangelists of Los Angeles, one of the three Class A medical schools of California, had been waxing fat at the expense of the taxpayers in teaching its students in the wards of the county hospital. Several mornings were consumed in this discussion of the ward walks and other activities of the staff members of the College of Medical Evangelists, who in the Los Angeles County General Hospital have not even wards set aside for them, as have the medical schools of the University of California and Stanford in the San Francisco General Hospital.

All that can be said of this part of the hearing, as gathered from the newspaper reports, is that it gave to the public a distorted and antagonistic impression of medical teaching work in hospitals. And this in the face of the fact accepted by all those who really are in a position to know that hospitals in which medical students are taught are almost invariably in the front rank, and outrank, as a class, non-teaching hospitals. It is somewhat surprising that Supervisor Shaw, who has been chairman of the county hospital committee, and who has sat in on conferences concerning the rating of the county hospital by the American Medical Association Council on Medical Education and the American College of Surgeons, should seemingly have forgotten all this.

Here again we see a splendid return appreciation (?) by some members of the lay public for the five hundred thousand dollars worth of gratuitous services each year rendered by the attending staff of the Los Angeles County General Hospital, which sum of money is practically a donation to the very taxpayers whose financial interests are being so strenuously supported by their *amicus curiæ* friend who has placed himself in the picture as the supporter of Supervisor Shaw.

* * *

Drs. Howard H. Johnson and Rodney A. Yoell of San Francisco Called to the Hearing as Experts on Hospital Costs.—At the time this is being written, a new phase is about to be entered upon through two San Francisco colleagues who will give evidence on hospital costs. Dr. Howard H. Johnson of St. Luke's Hospital at San Francisco, and Dr. Rodney A. Yoell of San Francisco, whose studies on hospital and medical costs were presented at the recent annual session of the California Medical Association, are booked to go on the stand in a day or two. It will be interesting to note the nature of their reception by the legal representative who functions in the nature of a friend of the court and who, if he synchronizes himself with his past efforts, will no doubt make an effort to show how much they are in error concerning any viewpoints or figures in which up to now they may have had some faith.

* * *

Why This Los Angeles County Hospital Situation Is of Importance to the Medical Profession of California.—Some readers of California and Western Medicine may wonder why this Los Angeles County General Hospital situation is here discussed in such detail. The answer is simple: Because the matter is of extreme importance to the medical profession and to the public health.

Because for the one profession whose members give gratuitous services to indigent fellow citizens far in excess of services rendered by any other professions or vocations, to stand idly by while the standards and policies in which it believes are attacked, or called into doubt, or unjustly assailed, and to accept such unjust public castigation without protest, would be asking too much. The pity of it all is this: That the damage done to the medical profession through the acceptance by many members of the lay public, of the erroneous and perverted facts which have been put forward, will be most difficult to undo. One can only state at this time that it seems to have all been somewhat of a nasty mess, with motives and forces in operation which are difficult to understand. Perhaps as the months go by, in these present hard times particularly, the real purposes will come to light. Up to the present it may be affirmed that the record of altruistic service by the medical profession still stands out as a dominant and inspiring element in an otherwise unattractive picture.

New Lung Disease Apparently Due to Fungus.—In a report recently issued by the Public Health Service, the studies of medical officers on a lung disease due to unknown cause encountered by them while investigating the effects of dust upon miners are described.

About 125 cases of the disease are described as having been found by x-ray examination among more than 18,000 individuals during routine physical examinations. The disease is, for the time being, designated miliary lung disease due to unknown cause.

A majority of the cases did not have sufficient symptoms to cause them to stop work or to seek medical aid. The most characteristic finding was a large number of discrete, dense, shot-like spots scattered over the lung areas. Tubercle bacilli were present in only two of the eighty-eight cases in which an examination was made of the sputum.

Unstained smears of sputum of thirty-one cases (all those examined) were positive for fungus. The two types of fungi were identified as ***Aspergillus fumigatus fisheri*** and ***Aspergillus niger***.

Other workers have reported a condition and designated it as miliary calcification of the lungs, which may be the same condition as that mentioned in the report above described.

The condition, miliary calcification, described in this report may be due primarily to fungus infection. —*United States Public Health Service.*

MEDICINE TODAY

This department of California and Western Medicine presents editorial comment by contributing members on items of medical progress, science and practice, and on topics from recent medical books or journals. An invitation is extended to every member of the California, Nevada and Utah Medical Associations to submit brief editorial discussions suitable for publication in this department. No presentation should be over five hundred words in length.

A Common Surgical Error.—Where the integrity of the skin is threatened as a result of trauma or in surgical proceedings the most widely accepted treatment is the application of dry or moist heat. No error could be greater. No error is more common. Frequent calls to repair skin defects resulting from this misuse of heat has brought this so strongly to our attention that we feel comment thereon may be in order.

Three conditions give occasion for this erroneous use of heat. First in pedicle grafts which show cyanosis following transplantation. Second in the treatment of soreness or in attempting to hasten absorption after hypodermoclysis. Third and most frequently, in general practice, in attempting to treat large deep hematomata which lift the skin and subcutaneous fat from their normal fascial bed.

Pedicle grafts which are pallid are safe; but grafts which become blue are suffering from adequate arterial supply and embarrassed venous return. Congestion is the difficulty which threatens the success of the graft. Heat only adds to the congestion and assures the failure. A pedicle graft may be nearly black on the second day and yet result in a complete take with normal texture in the transplanted tissue if heat is avoided, the only ultimate injury being a desquamation of the epithelium which is rapidly replaced. The graft bandaged loosely under a thick dressing is maintained at body temperature which is after all the optimum for the growth of all body cells.

The frequency of burns after hypodermoclysis is common knowledge. Here again the blistering or sloughing are not actually a burn but an overloading of an already burdened venous circulation, for we have seen these injuries occur under very gentle heat.

The large hematomata seen in fat thighs and arms after deep contusion appear first as a tender swelling of the injured part. They are associated with a sharp rise in temperature of 100 to 102 degrees and are locally tender and warm. This temperature subsides through three days, followed on the fourth or fifth day by a secondary rise in temperature which subsides more slowly during the next week. With this secondary rise the physician finds the contused area hot, dusk in color with a slow return of blood after pressure is applied by the examining finger, and deep fluctuation is very definite. At this point aspiration of the now liquid hematoma under the strictest aseptic precautions and the application of a pressure bandage will save the overlying tissues almost without fail. Unfortunately, however, a diagnosis of abscess is almost invariably made and heat is applied with the result that the already embarrassed venous circulation is overwhelmed by the induced congestion and a slough results which extends to the deep fascia. With separation of the slough a deep ulcer with undermined edges and secondary infection results which requires months of time or skin grafting to close.

This observation is the result of unpleasant personal experience and the experiences of others seen in consultation. It seems to us that we have here the common medical phenomenon of a time-honored practice followed blindly into unfortunate therapy in spite of the lessons we might have learned from repeated avoidable disasters.

Harold E. Crowe, Los Angeles.

Chinese Immunologic Superiority.—Why is scarlet fever so rare in the tropics? Repeatedly introduced into tropical countries, it has caused only unimportant local epidemics, largely confined to newly arrived foreigners. Is the apparent immunity of native races due to some inherited racial peculiarity, an ancestral weeding-out of non-resistant human strains? Or is there something in the tropical environment that automatically immunizes natives?

One of the most important contributions to this suggested racial immunity has recently been published by Doctor Toyoda, of the Japanese Isolation Hospital, Darien, Manchuria.[1] Doctor Toyoda found in the racial mixture of his province a natural laboratory for the experimental and statistical study of relative racial susceptibility. In Manchuria there are two main racial groups, Chinese and Japanese, living under practically identical conditions. The two groups, however, are remarkably different in scarlet fever resistance. Tested with the Dick toxin, 40 per cent of the local Japanese show skin susceptibility, as contrasted with but 20 per cent among the Chinese. Three hundred and sixty-one local Japanese per 100,000 annually contract scarlet fever, while but eight local Chinese per 100,000 acquire the disease. It is evident from Doctor Toyoda's data that in his province at least racial inheritance is more important than environmental factors in determining susceptibility to scarlet fever, that the Chinese of Manchuria are immunologically superior to the Japanese so far as this disease is concerned.

Japanese scarlet fever susceptibility in Manchuria is approximately the same as the susceptibilities reported for the mixed populations of New York and Budapest.

W. H. Manwaring, Stanford University.

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[1] Toyoda, T., et al., Does the Dick Reaction with Streptococcus Toxin Indicate Susceptibility to Scarlet Fever? Jour. Infec. Dis., 46, 186, March 1930.

Recovery Oxidation in Muscle.—The electrical, mechanical and thermal events occurring during an isometric twitch in skeletal muscle, together with their probable biochemical explanation have been described in previous papers.[1] [2] The present paper is intended as a brief review of the phenomena accompanying recovery.

Recovery Heat Production in Muscle.—The myothermal studies of A. V. Hill have afforded precise information concerning the magnitude and time course of recovery heat production in muscle. Its absolute magnitude in air or in oxygen is 1.5 times that of the initial heat. Most of the recovery heat is aërobic, since absence of oxygen reduces it to one-sixth [3] (p. 38) of its aërobic value. Since the initial heat is wholly anaërobic [3] (p. 42), the total aërobic heat produced in contraction is nearly the same as the total anaërobic.

The significance of the anaërobic fraction of the recovery heat is not clear. Hill[3] has suggested that it may be due to delayed neutralization of some of the products of contraction. In view of the considerations outlined in the rest of this paper, the possibility suggests itself that this heat may be the result of oxidations in which some substance other than oxygen serves as final hydrogen acceptor.

The rate of recovery heat production increases with increase in temperature within certain limits, the usual behavior of biochemical reactions, and is decreased by a rise in the hydrogen ion concentration. In excised frog muscle the rate of heat production in recovery is related to the "concentration of the substances whose removal constitutes recovery" [3] (p. 39). In any case, the total duration of recovery heat production is much greater than that of the initial heat. For example, after an isometric tetanus lasting 0.1 second, the initial heat production is over in about 1.3 seconds, while recovery heat production can be noted for some 300 seconds.

Oxygen Consumption in Muscle During Recovery.—An outline of the reactions occurring during recovery in muscle is given in a previous paper.[2] In general these are restitutive in nature. The relation of oxygen consumption to these processes has been established by the researches of Meyerhof,[4] which have shown that the oxygen consumption consequent upon muscular function occurs after but not during contraction. These observations accord well with Hill's findings described above. In rate and duration there is a parallelism between oxygen consumption and recovery heat production, and like the recovery heat, oxygen consumption is decreased by a rise in hydrogen ion concentration.[5]

Mechanism of Recovery Oxidation.—It has been known for a long time that the living cell can utilize oxygen to oxidize substances relatively stable under ordinary conditions, substances which may be kept in air for indefinite periods without oxidation. Xanthin is an example of such a body[6] (p. 331). It is very difficult to oxidize this substance to uric acid by any of the usual oxidizing reagents, and yet the reaction goes readily in air in the presence of xanthine oxidase. There are three possible mechanisms of doing this:

1. Activation of oxygen.
2. Activation of substrate.
3. Both.

At the beginning of the present century it was generally believed that biological oxidation was effected by means of activated oxygen. The historic background and experimental basis for this view is given in Kastle's excellent monograph.[7]

However, in consequence of the extensive researches of Wieland, Thunberg, Hopkins, Keilin, Dixon and others, the last fifteen years have seen a notable shift in point of view.

It is now thought by most investigators in this field that the first step in all biological oxidations is the activation of hydrogen atoms of the substrate by the several dehydrogenases known to be present.[6] In the opinion of Wieland, activation of oxygen is not an essential, but some experiments of Thunberg suggest that at least in some instances, both the activation of substrate and activation of oxygen are important. For example, the dehydrogenation of succinic to fumaric acid in the presence of succino-dehydrogenase is not inhibited by cyanides when methylene blue is the hydrogen acceptor, but is inhibited when the hydrogen acceptor is oxygen. Now it is known that activated hydrogen will react directly with methylene blue,[6] and that cyanides interfere with the activation of oxygen. Accordingly Thunberg [6] has inferred that the oxidation of succinic acid to fumaric acid by oxygen is a reaction involving two enzymes, succino-dehydrogenase and an oxidase.

It is known that animal tissues contain a number of more or less specific dehydrogenases [6] (p. 326), and while active oxygen may be required to accept from succinic acid the hydrogen activated by succino-dehydrogenase, this may not be a general phenomenon. In fact the work of Dixon and others has shown that xanthine oxidase will serve to so activate the hydrogen of xanthine and of aldehydes, that it will be taken up by molecular oxygen even in the presence of cyanides. In this case the oxygen is simply equivalent to methylene blue as an hydrogen acceptor, and reacts without activation. We are here dealing with what Thunberg calls a "catalytic three compound system," that is, a system containing as essentials substrate, dehydrogenase and oxygen.*

John Field, 2nd., Stanford University.

*(Part Two of this contribution will appear in this column in next month's California and Western Medicine.)

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[1] Field, J. California and Western Medicine, xxxiii, No. 6, 1930.

[2] Field, J. California and Western Medicine, xxxiv, No. 1, 1931.

[3] Hill, A. V. Muscular Activity, 1926.

[4] Meyerhof, O. Arch. f. d. ges. Physiol., clxxxii, 232, 284, 1920; clxxv, 11, 1920; clxxxviii, 114, 1921; cxci, 125, 1921; cxcv, 22, 1922; Biochem. Ztschr., clvii, 459, 1925.

[5] Koehler, A. E., and Reitzel, R. J. J. Biol. Chem., lxiv, 739, 1925.

[6] Thundberg, T. Quart. Rev. Biol., v, 318, 1930.

[7] Kastle, J. H. The Oxidases. Hygienic Laboratory Bulletin 59, United States Public Health and Marine Hospital Service, 1910.

TRANSACTIONS OF THE SIXTIETH ANNUAL SESSION CALIFORNIA MEDICAL ASSOCIATION

SAN FRANCISCO, CALIFORNIA, APRIL 27-30, 1931

I.—Minutes of the House of Delegates; II.—"Pre-Convention Bulletin" Reports; III.—Minutes of the Council; IV.—Digests Executive Committee Minutes.

HOUSE OF DELEGATES

Minutes of the Meeting of the House of Delegates of the California Medical Association

First Meeting of the House of Delegates at Sixtieth Annual Session

Held in the Gold Room, Hotel Fairmont, San Francisco, Monday, April 27, 1931, at 8 p. m.

I. **Call to Order.**—The meeting was called to order by the Speaker, Edward M. Pallette of Los Angeles.

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II. **Report of the Speaker on Personnel of Credentials Committee and Two Reference Committees.**—The Speaker announced that three committees of the House of Delegates had been appointed: A Committee on Credentials consisting of George Reinle of Oakland (chairman), William H. Kiger of Los Angeles and Harry E. Zaiser of Orange; a Reference Committee on Reports of Officers and Standing Committees consisting of Joseph King of Los Angeles (chairman), Lemuel P. Adams of Oakland and Alson Kilgore of San Francisco; and a Reference Committee on Resolutions and New and Miscellaneous Business, consisting of Charles Dukes of Oakland (chairman), Fitch C. E. Mattison of Pasadena and Robert Peers of Colfax.

* * *

III. **Report of the Credentials Committee.**—Dr. George Reinle, Chairman of the Credentials Committee, then submitted the following report:

1. Your Committee on Credentials begs leave to report that of the delegates and alternates listed in an official program of the annual session, a total of eighty-two delegates and forty-six alternates, have registered and have credentials complying with the Constitution and By-Laws. We present a list from an official program in which we have checked the names of all delegates and alternates whose credentials have been submitted to this committee, either directly or through the State Association secretary or through a county society secretary. The names checked are all official delegates and alternates on said official program and are entitled to membership in the House of Delegates in accordance with the provisions of the Constitution and By-Laws.

2. The alternate for each delegate is printed opposite the name of each delegate in said official program. If a delegate is not present and his alternate is not present, the committee recommend that the first available alternate appearing on said official program be seated, and if there be no available alternate that some member of that respective component county society be selected by the delegates and alternates present of that respective component society, or if no delegate or alternate is present, the House of Delegates may select a member or members from that component county socity to act as delegate or delegates thereof.

The Speaker announced that the next order of business would be the approval of the report.

On motion of T. Henshaw Kelly, seconded by Junius B. Harris, and unanimously carried, the report of the Credentials Committee was adopted.

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IV. **Roll Call.**—The secretary called the roll; one hundred and thirty-six members of the House of Delegates, consisting of officers, delegates and alternates, were seated and the Speaker declared a quorum present. The Speaker announced that those who had been seated tonight would make up the House Wednesday also unless an alternate seated for an absent delegate desired to release his seat to the delegate for whom he was serving and so announced.

* * *

V. **Report of the President.**—At the request of the Speaker, Lyell C. Kinney, president, submitted his report as president, which follows:

The most important work of the year has been done by the standing committees. The Committee on Public Policy and Legislation, headed by Doctor Harris, has given valuable service at a cost of great effort and personal sacrifice, and has increased the respect and prestige of the California Medical Association in both houses of the Legislature. This work has included a careful study of 123 bills that pertain to public health and medicine. It has entailed almost constant attendance on the Legislature or in committee throughout the last half of the session.

The Committee on Medical Economics, under the leadership of Doctor Graves, has continued its exhaustive studies, collected facts concerning medical costs and health insurance, and analyzed current reports and public opinion. They have studied various plans for medical service, in order that the Association may intelligently deal with these problems.

Doctor Ruddock, Chairman of the Committee on Hospitals and Clinics, has been actively associated with the extensive effort to standardize clinics in the Los Angeles District. The work of these three committees is fundamental and deserves the sincere appreciation of the House of Delegates.

We should note three significant developments during the past year that show the trend of public opinion in this state. The Santa Maria incident was an attempted excursion into state medicine without any safeguards or mitigating circumstances. The situation was well handled by the Santa Maria physicians and the Santa Barbara Medical Society. It indicates, however, the attitude of certain officials dealing with public health administration.

Senate Bill 175, our major problem in the Legislature this year, was an effort to capitalize on public opinion regarding medical costs. Corporations and laymen sought the legal right to practice medicine, that they might exploit the profession and the public under the guise of reducing the costs of sickness.

Of equal significance is the decision of certain interested organizations to present an initiative bill for state medicine in the general election of 1932. Such an initiative would be dangerous and would be much harder to combat than the similar law proposed in 1918 because of the widespread public discussion in the past ten years and the rapid increase in state medicine throughout the civilized world.

It has been my privilege this year to meet with the county medical societies in sixteen different sections of the state. Several of these gatherings were joint meetings of three or four neighboring societies. One cannot visit these societies without becoming optimistic concerning the future of medicine. The California Medical Association may well be proud of the high calibre of its members throughout the state. They are alive to modern needs and realize the continued attack that is being made on medical practice. Everywhere there is anxiety concerning the possible approach of state medicine. Our members are willing to make necessary adjustments in their practice and they are anxious to do their part in the solution of the problems that confront the medical profession, but they do not know the steps to take or the methods of approach. Every county society is looking to the California Medical Association for constructive leadership and expecting from it a definite program. Our members are looking to their state society for an answer to those problems that are constantly before them in lay and medical publications.

I take it for granted that the California Medical Association will determine the future of medicine in this state. Also that this House of Delegates intends to lead in economic adjustments and medical legislation required by modern, public needs. If we are to do this we must have a constructive plan of action to present to our county societies.

The county medical society has a double function. The traditional one is that of re-educating its members through scientific discussions. The second, which is more important at this time, is that of leadership in the public relations of the profession. There are four lines of activity that should have new emphasis in this field of public relations:

1. The county medical society should educate its members in present economic problems. They should know what forces are molding public opinion and what changes are being demanded in medical practice. They should also be informed concerning the real facts in the cost of medical care and the relation of these costs to the individual and to the public as a whole. The county society should study the economic problems in its own community to determine what adjustments are necessary to meet modern needs. Our members should come to realize that the financing of medical service is but incidental ,and that the real problem is to provide all classes with qualified medical care. The county societies should place as much emphasis on the study of these economic problems as they do on scientific and clinical medicine.

2. The county medical society should put new emphasis on public health education. We *can* mold public opinion, but we have made very little organized effort to do so. The public is greedy for health education, and we cannot blame people if they are influenced by the vast amount of misinformation they receive. A Speakers' Bureau in the county society should be prepared to place speakers on health and medicine wherever they can be used. It is essential that such speakers be furnished with proper material, written in the language of the laity; and this should be provided by the State Association, as is done in Minnesota. There is constant opportunity to present this information in the service clubs, labor organizations, et cetera. The cults and the laity will continue to use these opportunities if we do not.

The Woman's Auxiliary can become a powerful factor in public health education through the medium of the women's clubs and the parent-teachers' organizations. The auxiliary should be represented on the health committees of the various clubs to aid in the determination of policy and the choice of speakers. The need for this was seriously felt in the campaign against the chiropractic initiative, when our workers found health committees almost universally in the hands of the cults and the Christian Scientist.

The county society can reach the public through the press if it is prepared to furnish reliable medical news and health facts of public interest. The lack of paid advertising will not prevent the city editor from using information that has news value. We should initiate contacts with the press and convince them of the value of our coöperation.

The society has a dynamic force for public health education in our magazine, *Better Health*. With very little effort the county society can place this magazine in 50,000 homes in California and on the reading table of every club and library.

Modern control of public opinion requires the use of radio broadcast, and several of our county societies are now in the position to use this method. In Boston, Chicago and Minneapolis systematic health information is placed on the air, and the large stations in these cities submit all health talks or health advertising to the medical society for approval before it is released for broadcast. Our California societies can arrange similar contacts if they are willing to make the necessary, organized effort.

3. The county medical society can lead and direct in all public health activities. The profession has hitherto either ignored or strongly criticized health activities by the state or lay organizations on the grounds that they interfered with private practice. Public opinion is behind these activities which are attempting to do the work for the community that the medical profession has not provided. The recent White House Conference and the American Public Health Association are strongly recommending coöperative contact between the county societies and the health officers. The officials need the support and advice of the medical organization, and coöperative effort will eliminate friction and place the society in a position of constructive leadership.

There are many health activities, welfare and clinic organizations under lay direction that should be brought under the helpful influence of the medical societies. Very frequently these lay organizations call upon the doctor to carry out plans and policies previously determined, with the result that the profession is criticized for failing to coöperate or that the doctor becomes merely an unpaid and inefficient servant. The county society should seek representation on the governing boards of each of these lay organizations. The medical society should furnish them with information and guide their policy so that they may perform a real public service and coöperate with the medical profession rather than add to the social and medical unrest.

4. The county medical society should be prepared to *direct* in health and medical legislation. The influence of the county unit is essential in legislative crises at Sacramento, but its legislative contacts should not be limited to the two months of the biennial session. The society should maintain continuous contacts with the legislators, and so establish confidence and respect for the judgment and requests of the medical profession. Continued contact is also necessary with county and city legislative bodies. Local health problems should be known and considered before they reach the stage of legislation, and the decision of the county society in these matters should represent the combined judgment of its members. Many of our public officials believe that the medical profession is not strongly organized. They frankly tell us that the doctors do not know what they want; that they will not stick together and that therefore they can be ignored. The same officials just as freely admit that if the doctors were strongly organized they could have whatever they asked in health and medical legislation.

These public activities of the county medical society are prerequisite to any effort for the solution of modern economic problems. Before we can harmonize our practice to modern needs we must meet these obligations of systematic self-appraisal, public education and leadership in all work and legislation for the health of the public. This should be the chief function of our county medical societies, and the development and coördination of these public relations are major problems before this House of Delegates.

The California Medical Association is facing very vital problems in the near future. The principle of health insurance is rapidly gaining public favor. The findings of national committees and of heavily endowed research will shortly crystallize into attempted legislation. Sooner or later, we must face the demand for state medicine on an initiative ballot at a general election. The future of medicine in California will then depend upon the wisdom and strength of our leadership.

May I submit the following recommendations for your consideration:

First, that the California Medical Association develop immediately a definite, detailed plan of public relations for the county medical societies. This involves a survey of the particular needs of this State and of the activities of other state associations. This program should include methods of public education and the providing of material therefor. It should include plans for advisory contact with all health officials and coöperation with all lay welfare organizations. It should provide for continued relations with the members of the Legislature and county and city officials dealing with health problems. Also it should stimulate the county society to active study of the business side of medicine.

Second, that in the near future the California Medical Association employ a well trained executive to develop this program in and with the county societies. Under the present provisions of our Constitution the title might be that of "Executive Secretary in Charge of Public Relations." His duties should be to coöperate with the standing committees and carry out plans and policies which are directed and approved by the Council.

Third, the recently adopted Constitution has relieved the president of this Association from practically all executive functions. I fully approve of the wisdom of this provision. However, the Constitution charges that the president "be the real head of the profession of the state during his term of office." If he is to be in fact a leader during that term he must have some direct and continued contact with the profession. It is the custom in several states to grant the president a page each month in the journal of the Association in order that he may bring to the members a frequent personal message. I respectfully suggest that the California Medical Association adopt the policy of a President's Page in California and Western Medicine.

Fourth, following the argument in the president's address this morning, I suggest for your consideration the formation of a permanent Cancer Commission by the California Medical Association. This commission should be appointed by and report to the Council and should consist of the outstanding leaders in the pathology and therapy of cancer. The function of the commission should be to provide means for the education of the medical profession in the early recognition and diagnosis of cancer. It should also coöperate with the American College of Surgeons and the American Society for the Control of Cancer in developing a definite cancer program for California. This is a vital public health interest that should be led by the medical profession rather than controlled by the laity or the state.

May I take this occasion to thank the officers of the county societies for their interest and support during the past year, and to express my grateful appreciation to the members of the Council and the officers of the Association for their untiring efforts and efficient service.

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The Speaker announced that the report of the president would be referred to the Reference Committee on Reports of Officers and Standing Committees.

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VI. **Report of the Council.**—The Speaker announced that the report of the Council, as prepared by the chairman, Doctor Hamlin, would be read by Doctor Pope. Doctor Pope then read the following report:

MEETINGS

Including the reorganization meeting held on Thursday, the thirteenth of May, 1930, the present members of the Council have sat at three regular and two special meetings. Three of these were held in San Francisco, one in Los Angeles and one at Del Monte. There must be added to these, the four daily meetings which will be had during the present annual session, before the present Council completes its year's work, making a total of nine Council meetings. All of the Council meetings have been well attended.

Seven meetings of the Executive Committee of the Council have been held between regular sessions of the Council, the regular meeting place of which is the offices of the Association at Four-Fifty Sutter Street, San Francisco. At meetings of the Executive Committee current matters of importance are carefully considered and recommendations thereon made for further consideration and action by the Council.

FINANCES

The auditor's report shows that the California Medical Association at the close of the fiscal year, December 31, 1931, had a cash reserve of $99,784.28 and that $10,074.04 was saved in 1930. During the current year of 1931, with the dues which were authorized by the House of Delegates, a similar savings should increase the Association's reserve at the end of 1931 to almost $110,000, if no unusual expenditures are authorized.

As the Association will then have more than $100,000, which in the opinion of the Council is a sufficient reserve to meet any emergency, the Council recommends that the dues or assessment for members be reduced to eight dollars for the year 1932.

The corporation, Trustees of the California Medical Association having been created and organized pursuant to the provisions of the Constitution, and resolutions duly adopted by the House of Delegates at the meeting at Coronado, in May, 1929, the Council and the officers of the Association believe it is advisable to, and will, transfer to such holding corporation, from time to time, such funds of the Association as are not needed for the conduct and operation of its affairs, making due allowance for a safe margin for contingencies. Authority to take such action was given the Council and officers by the House of Delegates at the aforesaid meeting.

LEGISLATION

This is the year in which the California Legislature is in session and as usual there have been a multitude of bills that will intimately effect the standards of public health and the medical profession. Dr. Junius B. Harris, chairman of the Committee on Legislation, has given devoted service to the profession in his work on pending legislation.

HONORARY MEMBERSHIP

The Council recommends to the House of Delegates that honorary membership be granted Dr. Stanley Stillman of San Francisco.

PUBLIC HEALTH EXHIBIT

The Council feels that the most effective use of the Herzstein Bequest representing the interest of a trust fund given to the California Medical Association to combat irregular and unscientific practitioners of the healing art, is the education of the public in matters of public health and the nature of disease.

To that end the dissemination of health information through exhibits at the principal State Fairs has been approved by the Council and an item of $3000 has been authorized in the budget for such an exhibit.

RADIO BROADCASTING

The committee appointed by the Council to study the advisability of an attempt to educate the public in matters of medical accomplishment and public health through the medium of radio broadcasting, reported that, while it still believes firmly in the idea, it feels that the present situation is not a favorable one in which to make the attempt.

The committee recommends, however, that the study be continued as satisfactory opportunities may arise at any time.

COMMUNICATIONS TO THE JOURNAL

During the year differences of opinion between the Council and some of the members of the Association arose regarding the advisability of the publication of a communication from certain members, commenting upon a resolution passed by the House of Delegates at its last meeting and an article in California and Western Medicine in reference to said resolutions. The Council, after carefully considering the matter at two meetings, fully realizing its responsibilities to everyone concerned and to the Association, decided the matter in its considered judgment, for the best interests of the Association. In passing on the matter, the concurrence of the Council in any of the conflicting statements contained in any communications sent to the offices of the Association in relation to the matter, was neither necessary nor involved.

PRACTICE OF MEDICINE BY LAY CORPORATIONS

One of the greatest enemies to the proper medical care of patients is the practice of medicine by corporations for profit. This evil has had the consideration of your Council for the past six years. In 1925 Dr. Granville MacGowan, then president of the California Medical Association, individually took action, resulting in the commencement of quo warranto proceedings against the Medical Service Corporation of Los Angeles. On April 13, 1930, decision was rendered by Judge Blake of Los Angeles that a corporation cannot legally practice medicine for profit.

MEDICAL ECONOMCS

During 1929 plans for the medical care of the small income man on whom sickness brings a financial burden often beyond his ability to meet, were considered at one special and one general meeting of the Council. While no specific plan has as yet been found entirely workable by your Council, the need for further study and more general knowledge of the existing economic conditions and the great necessity for leadership by the profession is fully appreciated.

Two standing committees of the California Medical Association, one on Hospitals, Dispensaries and Clinics and one on Medical Economics, have been studying the question throughout the year.

In pursuance of a resolution passed by the House of Delegates, a section on Medical Economics has been formed. Because of the great general interest to the profession, the meeting of this section during the annual session has been placed at an hour when other sections are in session that all members may be present; and because economic problems of one state of the Union are not necessarily those of another, only members conversant with the situation in California have been asked to address this meeting. The program for the meeting has been arranged by Dr. John H. Graves, chairman of the Committee on Medical Economics. It is hoped that all members of the profession will see fit to attend.

ACCEPTANCE OF REBATES ON FEES OF PATIENTS REFERRED TO A DIAGNOSTIC LABORATORY DECLARED UNETHICAL

The ethics of members participating in the Los Angeles Coöperative Diagnostic Laboratory and similarly conducted business arrangements have been passed upon by the Council of the Los Angeles County Medical Association. The Judicial Council of the American Medical Association has gone on record that "schemes of this kind are unethical and directly opposed to the interests of scientific medicine and the public."

As these laboratories are extending their activities to other counties in California than Los Angeles, the Council was asked for an opinion, and the following resolution was adopted:

"Resolved, That it is the sense of the Council and it is declared as a statement of ethics in that regard, that any physician who is a participating member of a diagnostic laboratory, and who receives as compensation from that laboratory a portion of the fees paid by patients he has referred to that laboratory, shall be considered unethical."

Component county societies are requested to bring this rule into effect.

MEDICAL OFFICERS' RESERVE CORPS

The present Army regulations require that every medical reserve officer shall, during each five years' commission period, put in two hundred hours of military activity or else become ineligible for renewal of his commission with assignment to an Organized Reserve Unit and therefore revert to the "Auxiliary Reserve" in time of peace.

The Council recommends that a resolution be passed by the House of Delegates similar to those passed by the Minnesota, Utah, and Nevada societies, asking that the regulations be changed to provide the recommission and reassignment of officers holding commissions, even though they have not completed the required amount of military work in time of peace. And that we forward copies to the corps surgeon and the commanding general of the Ninth Corps Area, the surgeon general of the Army, the adjutant general of the Army, the officer in charge of Organized Reserves, the chief of the Army, and the secretary of each state medical association.

WOMAN'S AUXILIARY

Thirteen societies have organized auxiliaries. During the past year a Constitution and By-laws for the Woman's Auxiliary of the California Medical Association have been under consideration and will probably be adopted at the 1931 annual session.

It is not the intention of the Council to force the formation of auxiliary units. The action of the House of Delegates sanctioned the formation of a Woman's Auxiliary in California, but each county society was allowed to make its own decision regarding the need of a county auxiliary. An auxiliary to a county society, when its activities are what its title implies, can do much to assist the parent organization in bettering the social side of the regular meetings, in carryi scientific medicine to the health programs of the woman's clubs and parent-teacher organizations, in participation in Red Cross and philanthropic medical service to the local community, and in promoting interest in education health study, in groups or clubs.

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The Speaker announced that the report of the Council would be referred to Reference Committee on Reports of Officers and Standing Committees for recommendations.

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VII. **Report of the Auditing Committee.**—T. Henshaw Kelly, chairman of the Auditing Committee, submitted the following report on behalf of the Auditing Committee:

The Auditing Committee has examined the expenditures of the California Medical Association for the year 1930 and has had the books audited by Hug Ross, certified public accountant.

The books are all in order and the auditor's report will be submitted as part of the report of the secretary-treasurer.

We, the Auditing Committee of the Association, wish to commend the manner in which the books have been kept and the careful check upon all expenditures that is maintained in the offices of the Association under the direction of Emma W. Pope, the secretary-treasurer of the Association.

As an Auditing Committee, observing each month the income and expenses of the Association, we would like to call the attention of the House of Delegates to the following figures which represent the relation between the income and the outgo of the Association for the past six years:

	California Medical Association	California and Western Medicine	Net Gain
1930	Gain $14,162.00	Loss $4,088.36	Gain $10,074.04
1929	Gain 15,022.89	Gain 1,471.73	Gain 16,494.62
1928	Gain 17,639.25	Loss 3,334.84	Gain 14,304.41
1927	Gain 9,338.80	Loss 551.83	Gain 8,786.97
1926	Gain 9,526.36	Gain 8,254.95	Gain 17,781.31
1925	Gain 9,821.87	Gain 7,014.88	Gain 11,836.75

These figures show an average annual net gain for the past six years of $13,213.33.

The cash surplus on hand December 31, 1930, was $104,503.85, of which $11,639.91 is immured in the Permanent Quarters Fund and not therefore available for general purposes. This leaves an untrammeled cash surplus of $92,863.94.

With dues at the present figure the gain for 1931 will raise this cash surplus above the $100,000 and we, the Auditing Committee, strongly advise that the dues for 1932 be $2 per year below the present $10, and the Association may then run on its income with little gain but with very sufficient funds in reserve to meet any emergency.

We would like to say further that with such a strong financial position as the Association now enjoys, the possible further reduction of the annual assessment of dues should be carefully considered and to this end we recommend to the Council a study of the present expenses of the Association with the above mentioned end in view.

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The Speaker stated that the report of the Auditing Committee would be referred to the Reference Committee on Reports of Officers and Standing Committees.

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VIII. **Report of the Secretary-Treasurer.**—Emma W. Pope of San Francisco, secretary-treasurer, submitted the following report as secretary-treasurer:

Yearly reviews give a less accurate picture of the progress of any society than does a comparison of longer intervals. The growth of the California Medical Association during the thirty-five years preceding 1906 and the twenty-five years following are here contrasted.

Twenty-five years ago the California Medical Association opened its thirty-sixth annual session at San Francisco in the Young Men's Christian Association and on the morning of the second day had an enforced adjournment.

The president, Dr. R. F. Rooney of Auburn, in his address the succeeding year, reported the financial condition as follows:

"The losses of this society caused by the fire following the earthquake were heavy and have crippled us severely. It has taxed the business ability of our councilors to provide for the maintenance of our publications during the year without running the society deeply in debt. Owing to the increase in cost, both of labor and material, the expense of publication of the Journal and *Register* was greater than before. The losses were as follows:

Lost on Journal advertising	$ 452.30
Paper on hand	437.68
New equipment, office furniture, stationery, etc.	1,067.21
Reëstablishing card files	1,000.00

Making a total loss of almost $4000."

Dr. Philip Mills Jones, secretary, reported that year a membership of 1800.

PROGRESS IN LAST TWENTY-FIVE YEARS

A picture of the size and financial status of the California Medical Association twenty-five years ago is in sharp contrast with the record of 1931.

The last quarter century has more than doubled, almost tripled the membership. At the close of 1930, 4881 members were in good standing; that period has wiped out the worrisome deficit that for so many long years was carried by a note of the Association on money borrowed from the bank; has housed the Association offices in a modern medical building in commodious, well equipped offices with a modern safe and modern record files and with all the needed machinery to run the office efficiently and serviceably for the members. The financial report shows a cash reserve on hand January 1, 1931, of $99,784 deposited in the savings banks of California, the interest of which will provide for unexpected demands that may arise over and above any provided for in the yearly budget.

As treasurer, I submit the financial statement for 1930 audited by Mr. Hugh Ross, public accountant. The report I shall read in round numbers. Mr. Ross' report is here on the desk for detailed study by any interested member and may be seen in the Council room during the meeting, or at the offices of the California Medical Association at any time during the year.

As stated the cash assets on December 31, 1930, were approximately $99,700. By addition of the accounts receivable, the value of office equipment and sundry small deferred charges the surplus is $108,000.

ASSOCIATION INCOME AND EXPENSE

One-fifth of the dues of each member is allocated to the Journal. The remaining four-fifths income of the Association from dues of members was $38,754; interest on reserve savings $3899; exhibits $1884; smaller items from sale of directory, etc., $21—a total income of $44,569.

The general expense of $15,794 includes full secretary's salary of $3600; two-thirds salary of clerical force $4956, and two-thirds of the cost of rent, office running, council expense, annual meeting, etc., amounting to $7847.

To this general expense of $15,794 is added that of the Legal Department, $5030 for attorney's fees and costs; the medical directory, $2788; medical service corporation proceedings, $1660; medical service plan, $3600; clinical and research prize, $300; and smaller items that bring the total general expense of the Association to $30,407. Deducted from the general income of $44,569, the gain of the Association for 1930, exclusive of the Journal, was $14,162.

JOURNAL INCOME AND EXPENSE FOR 1930

The income of California and Western Medicine derived from advertising was $37,070; from allocated county society dues, $9688.50; from the subscriptions, $2829; and from sales of review books, $180; making a total income of $49,767.

The expense of the Journal, including production, distribution, promotion and selling expense, totaled $37,132. The salaries of the editors and one-third of the clerical expense amounted to $12,473; the general expense, $4249; a total of $53,858. The total income being $49,767, the loss for the Journal was $4088. Deducted from the $14,162 gain made by the general office, the net income of the California Medical Association for 1930 is $10,074.

COUNTY SOCIETY ORGANIZATION

Twelve of California's forty-eight counties have no medical organizations. Nine counties are united under three group societies. Forty charters have therefore been issued covering forty-six counties of California. The twelve counties which have no county societies have a small population and few resident physicians—Alpine County having no doctor of medicine located therein; Mono and Trinity have but one; Del Norte and Mariposa, three; Inyo, six; Amador, eight; Calaveras and Modoc, nine; Kings and Lake, each three, and Madera, fifteen. Many of these resident physicians in each of these smaller counties are members of the California Medical Association through adjacent societies. The only licensed physician in Mono and Trinity is a member of the Association.

The work of the county officers has grown increasingly efficient. It is a nonremunerative service given to the California Medical Association, one that must consume time and thought, both of which, without exception, have been given unstintingly. The thanks of the State Association is heartily extended to all officers of the component county societies.

PLACEMENT BUREAU

The general financial depression of 1930 has been reflected in the advertising returns to California and Western Medicine and in the work of the Placement Bureau. Never before have so many applications for positions been on file, and never so few openings. During the entire year only fifteen doctors have been located through this service, and but a similar number of assistants to physicians, (nurses, stenographers or technicians). Advertising contracts for 1931 indicate a return to more normal business conditions. It is hoped that the 1931 work of the Placement Bureau will reflect similar bettered conditions for the medical profession.

OFFICE PERSONNEL

The personnel of the office stenographers has not changed for some years—Miss Bradford being with the Association for fifteen years, Miss Comings for nine years and Mrs. Talbot for five years. Other things being equal, the efficiency of service to the Association increases with the years of continuity of work, so specialized is the type of service required and so dependent on knowledge of medical ethics and of previous questions brought before the Council and on action taken thereon. The unremitting interest in the work for which each is responsible and the willingness to share excess burdens that may face any one member has created an atmosphere of friendly helpfulness that is responsible for the prompt and efficient service of the state office.

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The Speaker stated that the report of the secretary-treasurer would be referred to the Reference Committee on Reports of Officers and Standing Committees.

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IX. **Report of the Editors.**—George H. Kress submitted the following report of the editors:

Your editors beg leave to submit the following report on California and Western Medicine.

I. Manuscripts and Other Copy for California and Western Medicine

First, as regards the manuscripts and other material which has been used as copy during the last twelve months, or which is still on hand, awaiting an opportunity for publication:

(a) *At the 1930 Del Monte Annual Session a total of 119 papers were read* before the different sections. These were printed in California and Western Medicine as follows:

Del Monte Annual Session papers published in 1930 were	25
Del Monte Annual Session papers published in 1931 were	24
Del Monte Annual Session papers read and published elsewhere, declined, or not sent in were	24
Del Monte Annual Session papers which remain unpublished are	46
Total Del Monte Annual Session papers were	119

(b) *Special and original articles which were published in* California and Western Medicine *during the past year* (May, 1930 to April, 1931, inclusive) included:

Section papers from 1928 Annual Session (San Diego)	1
Section papers from 1929 Annual Session (Sacramento)	29
Section papers from 1930 Annual Session (Del Monte)	47
California Medical Association prize papers	2
Papers read before General Sessions	4
Lure of Medical History Articles	7
Papers from Utah and Nevada members	4
Papers read before county and other societies	17
Papers accepted but not read before other societies	17
Clinical and Case Report Articles	20
Hospital Clinic Reports	2
Total of non-Annual Session papers	150

(c) California and Western Medicine *has on hand manuscripts which have been accepted and which are awaiting publication*, as follows:

Unpublished papers from 1930 Del Monte Annual Session	46
Unpublished papers read before county and other societies	11
Unpublished original papers not read before societies	9
Unpublished papers read before Utah and Nevada State Associations	6
Lure of Medical History Articles	10
Clinical and Case Report Articles	13
Total	86

(d) *A limited amount of other copy* to be used in the Bedside Medicine and Medicine Today columns is also on hand.

An analysis of the above figures suggests the questions whether or not more papers are being read at the annual sessions of our State Association than heretofore or whether too large a number of papers read before county medical societies have been accepted for publication.

In answer to this it may be stated that it is both desirable and necessary that California and Western Medicine shall be something more than a so-called "Annual Proceedings" volume, even though printed in twelve monthly installments. The official publication of the California Medical Association is not solely intended to put into printed form every paper presented at an annual session. In the matter of special or original articles, it should be a medical journal published under state medical association auspices, in the pages of which can be found a presentation of worthwhile work and investigation carried on by California physicians in all the fields of medicine and surgery, and its contents should be also of such nature to not only be of interest or of use to those members who may have been present at the preceding annual session, but particularly be of service to that very much larger number of members who are not so fortunate as to have been in annual session attendance.

The number of annual session papers which are on hand and which have not been published at the opening of a succeeding annual session has been increasing year by year. This increase has been due to the larger number of sections and to the fact that some sections have a much larger number of papers on their programs than the average of other sections. The Executive Committee has considered this new problem, and in the effort to solve it to the best interests and satisfaction of all concerned, the rules laid down in this year's official program have been adopted, in the hope that the number of unpublished papers on hand at the beginning of a succeeding annual session may be considerably reduced. It must be conceded by all that annual session papers should all be printed within or almost within the succeeding twelve months. To wait longer than a year for the publication of an annual session paper seems neither fair nor complimentary. On the other hand, as already indicated, it is desirable that well written papers read before component county societies, should also have an opportunity for place in California and Western Medicine. With the new rules, as printed in the official program, it is hoped to bring about an improvement in these conditions.

II. Financial Report of California and Western Medicine

Turning now to the financial side of California and Western Medicine, the picture in this year of economic depression and financial hard times is not so good as a year ago. During this last year the advertising income fell off from $40,098.86 to $37,070.73, making a loss in advertising income for this last fiscal year of $3,028.13.

The printing, production and distribution costs of the journal last year were $29,012.42 and in the present year were $30,537.85 or an increase in these costs of $1,525.43. This is explained in part by somewhat larger issues, brought out in an effort to bring more of last year's annual session papers off the press. The editorial and clerical salaries have remained practically the same, the increase for this last year amounting to $104.33. One-third of the general expenses of the central office and of the Association are also charged against the official journal account. These general expenses are larger than heretofore because the new central offices of the Association pay a considerably higher rental and because the annual session expenses this year are also twice as great as last year. It must also be remembered that the income from the commercial exhibit is intimately connected with the official journal, because only advertisers are permitted to exhibit, but there is no allocation of income to California and Western Medicine from this commercial exhibit. This last item is, however, largely a matter of bookkeeping allocation, but is here mentioned in connection with the detailed financial report which is submitted herewith and placed in the files of the secretary-treasurer.

Even though the financial report is not so good as that of last year there is no reason to be discouraged, for the present financial stringency can not always last, and in better times, a restoration and an increase in the advertising income should be possible.

In conclusion, it is proper to again state that California and Western Medicine is the publication mouthpiece of organized medicine in California as expressed through the California Medical Association and that it acts in similar capacity for the Nevada and Utah Medical Associations. Your official publication primarily exists to safeguard and promote the interests of organized medicine as expressed through the California Medical Association and its component county medical societies and as your official journal, California and Western Medicine aims to carry worthwhile messages to all the members of the California, Nevada and Utah Medical Associations. It naturally follows that it does this best in proportion as it receives the coöperative aid of the members of those three state medical associations.

In the matter of editorial policy the editors act as agents of the California Medical Association, receiving instructions from the House of Delegates and Council, such procedure being in accordance with the provisions of the constitution and by-laws of the Association.

The editors desire again to express their deep appreciation of the kindly and generous coöperation of the many members who during the last, as in previous years, have given so many evidences of their willingness to aid in making your official publication a something in which each of us may take a pride.

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The Speaker stated that the report of the editors would be referred to the Reference Committee on Reports of Officers and Standing Committees.

* * *

X. **Report of the Trustees of the California Medical Association.**—The Speaker stated that the report of the Trustees of the California Medical Association as prepared by the president, Oliver D. Hamlin, would be read by the secretary. Doctor Pope then read the following report:

At the 1930 annual session of the California Medical Association, in accordance with the referendum vote of the members, Articles of Incorporation of the Trustees of the California Medical Association were executed and filed.

On May 17, 1931, organization meetings were held of the incorporators and the persons selected and appointed as directors of the trustees of the California Medical Assocation, By-Laws were adopted, certificates of membership issued and officers elected. The corporation is now ready to proceed.

The directors wish all public spirited persons to know that any funds or property given or bequeathed to this corporation can now be received and administered for public health and welfare purposes.

* * *

The Speaker stated that the report of the trustees of the California Medical Association would be referred to the Reference Committee on Reports of Officers and Standing Committees.

* * *

XI. **Report of the General Counsel.**—The General Counsel, Mr. Hartley J. Peart, stated that the report for 1930 marked about the end of the old medical defense, and reported on claims and cases pending. Mr. Peart then reported on the Indemnity Defense Fund cases handled by the Association and on the disbursements from this fund. He then explained the plan of the Association for the suggested assignment of the fund. An outline was given of the cases pending and disposed of under Optional Defense. The present status of the law regarding the compensation of expert witnesses was then explained and other miscellaneous work of the Legal Department for the past year reviewed briefly. The attention of the House of Delegates was called to the interpretation of the Council on the principles of medical ethics in industrial practice, the legal status of practice under "Hospital Associations" and kindred topics.

* * *

The Speaker stated that the report of the General Counsel would be referred to the Reference Committee on Reports of Officers and Standing Committees.

* * *

XII. **Pre-Convention Bulletin.**—The Speaker stated that the reports as contained in the *Pre-Convention Bulletin* would also be referred to the Reference Committee on Reports of Officers and Committees. (Editor's Note: The *Pre-Convention Bulletin* contained the reports of the officers as given above, and also the reports of other officers and committees. These reports are printed in this issue of California and Western Medicine, and will be found at the close of the minutes of the House of Delegates. See page 437.)

* * *

XIII. **Unfinished Business:**

Amendment to the Constitution.—The Speaker stated that the Amendment to the Constitution as proposed by Doctor Day last year would now be taken up for consideration. The secretary then read the amended section (proposed amendments in italics) as follows:

"The Council, at the organization meeting thereof, shall elect a chairman, a vice-chairman, a secretary-treasurer, an editor, and in its discretion, one or more associate editors, each to serve for the term of one year. *Nothing in this section shall be construed to prohibit the same person holding at the same time both the office of secretary-treasurer and the office of editor; but neither the secretary-treasurer nor editor shall hold any other office in the California Medical Association.*

The Speaker stated that the Council had requested the General Attorney to give an opinion as to the effect of this amendment, if carried.

Mr. Peart then presented the following opinion:

Pursuant to your request, I have examined the proposed amendment to Article X, Section 11 of the Constitution.

The article as it now stands with the proposed amendment (the latter being italicized) is as follows:

"The Council, at the organization meeting thereof, shall elect a chairman, a vice-chairman, a secretary-treasurer, an editor, and, in its discretion, one or more associate editors; each to serve for the term of one year. *Nothing in this section shall be construed to prohibit the same person holding at the same time both the office of secretary-treasurer and the office of editor; but neither the secretary-treasurer nor editor shall hold any other office in the California Medical Association.*

Section 1 of Article X reads as follows:

"Officers. The officers of this Association shall be a President, a President-Elect, a Secretary-Treasurer, a Speaker of the House of Delegates, a Vice-Speaker of the House of Delegates, an Editor, and fifteen Councilors (six of the fifteen Councilors being elected as at large, and nine from Councilor districts, as herein provided)."

It is to be noted that this section does not include the chairman or vice-chairman of the Council or associate editors (provision for whose election is made in Section 11 of this article) nor does it include the chairman of the Executive Committee (provided for by Section 8 (a) of Article VII, the heading of this section being "officers").

Both the secretary-treasurer and the editor are members of the Executive Committee as provided by Section 8 of Article VII.

Strictly speaking, the officers of the Association are apparently limited to those named in Section 1 of Article X, which do not include either the chairman of the Council, the vice-chairman of the Council, or the chairman of the Executive Committee. These last three persons are undoubtedly officers of the Council and of the Executive Committee, respectively, although not included in the definition of "officers of the Association." Moreover, the persons filling the positions of chairman or vice-chairman of the Council or chairman of the Executive Committee, undoubtedly *hold office in the Association.* The adoption of this amendment would render the secretary-treasurer and the editor ineligible for these offices and those defined in Article X, Section 1.

The By-Laws use the words "officers" and "offices." Chapter IV, Section 8, provides for one or more field secretaries and representatives. In Chapter V, Section 5, the heading is "Officers of Standing Committees." This section reads as follows:

"Each of these committees shall, each year, at its first meeting or official consultation, during or following the annual session, elect its own chairman and secretary."

In the same Chapter, Section 2, the heading of the section is "Standing Committees; How Elected; Terms of Office." Section 8 of the same chapter provides that the secretary-treasurer shall be a member of the Committee on Scientific Work, and the chairman thereof.

Section 10 of the same chapter provides that the editor and the associate editor or editors and the secretary-treasurer shall be members of the Committee on Publications.

Section 18 of the same chapter provides that the secretary-treasurer shall be a member ex-officio of the Committee on Membership and Organization.

In like manner the same officer is made an ex-officio member of the Committee on Extension Lectures.

In Chapter IX, Section 1 (d) the heading is "Officers of Sections," and this subsection reads:

"The members of each section shall at the regular annual session of the Association elect a chairman and a secretary of the section to serve for the term of one year."

If membership in the Executive Committee is to be construed as holding an office in the Association, then the provisions of this amendment would prevent the secretary-treasurer and the editor from serving on the Executive Committee. In like manner if membership in the various committees provided for by the by-laws, or the chairmanship of any thereof above designated, is holding an office in the Association, then this amendment would render both the secretary-treasurer and the editor ineligible for membership in, or as chairman of, such committees.

The language used in the amendment "hold any other office in the California Medical Association," is not synonymous with the phrase found in Article X, Section 1, "officers of this association." The by-laws adopted by the Association use the words "officers" and "office" to describe all those positions other than membership in the Executive Committee, other committees and field secretaries; and it would, therefore, appear that it was intended that these positions were offices in the Association. It is sought by this amendment to render the secretary-treasurer and the secretary-editor ineligible to hold any of the offices defined in Article X, Section 1, it would seem that the amendment should have been so limited.

As the by-laws specifically describe the chairmen and the secretaries of the standing committees and the sections as "officers," it clearly appears that these positions must be construed as offices in the California Medical Association and that the adoption of this amendment would clearly render the secretary-treasurer and the editor ineligible for such positions and would lead to conflict and confusion as to the meaning to be given existing provisions of the Constitution and By-Laws.

The Speaker then stated that in order to bring the amendment up for action it would be necessary for someone to move for its adoption.

Dr. Henry Ullmann of Santa Barbara moved that the amendment to Section 11, Article X, be adopted; such motion being seconded by Dr. B. Von Wedelstaedt of Los Angeles. The amendment was then discussed by Doctors Harris and Day. The Speaker then called for a rising vote. Motion defeated.

* * *

XIV. New Business:

The Speaker announced that the next order of business would be the presentation of new business.

RESOLUTIONS[**]

(a) *Resolution No. 1. Department of Public Relations.*—Fred B. Clarke of Long Beach then presented the following resolution:

Whereas, We believe it to be the consensus of opinion of the majority of the members of this Association that there seems to be an increasing demand upon the part of the public for more information on the subject of medical care; and

Whereas, There is an increasing demand upon the part of the members of this Association for more and detailed information upon medical economics and the modern art of the practice of medicine; and

Whereas, For want of medical leadership there seems to be an increasing tendency on the part of the laity to usurp the guidance which rightfully belongs to the profession; and

Whereas, Nonprofessional guidance is having not only a detrimental effect upon the practice of medicine, but is also jeopardizing the public health of the future; and

Whereas, Unless organized medicine takes immediate steps to regain the leadership it formerly held, it will be forced to follow under lay guidance and political domination; therefore, be it

Resolved, That the Council take immediate steps to create a Department of Public Relations, apart from the present Scientific Department, under the leadership of a well qualified, aggressive doctor of medicine[*] as business manager, who would understand the psychology of the art of the practice of medicine, whose business it should be to train assistants and develop departments to actively promote and protect the interests of this Association and its members.

Resolution No. 1, Department of Public Relations, was referred to Reference Committee on Resolutions and New and Miscellaneous Business.

* * *

(b) *Resolution No. 2. Establishment of a Cancer Commission.*—Alson Kilgore of San Francisco then presented the following resolution:

[†] Resolved, That a permanent Cancer Commission of the California Medical Association be and is hereby created, whose function shall be to (coöperate with the American Society for the Control of Cancer, the American College of Surgeons, the California State Board of Health and local boards of health, and with other recognized bodies and proper individuals) *represent the California Medical Association in the fight which must be waged upon cancer* to the *particular* ends that:

(1) Adequate means be provided in California for the education of the medical profession in the (early recognition and diagnosis) *early diagnosis* of cancer;

(2) That more adequate facilities for the diagnosis and treatment of cancer patients be provided;

(3) That research work on the nature, cause, behavior and treatment of cancer be encouraged.

That said Cancer Commission consist of nine members of the California Medical Association appointed (for this purpose) by the president of the California Medical Association; *and approved by the Council of the California Medical Association*;

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[*] The Reference Committee amended this resolution by inserting the words "doctor of medicine."

[†] The Reference Committee amended this resolution by deleting the words enclosed in parentheses and inserting the words placed in italics.

[**] For action on Resolutions, see pages 436-7.

That of the nine members first so appointed, three shall serve one year, three shall serve two years and three shall serve three years and that vacancies as they occur by expiration of term of service or otherwise shall be filled by appointment by the president of the California Medical Association subject to the approval of the Council;

That three of the nine members of said Cancer Commission be designated by the president of the California Medical Association, respectively chairman, vice-chairman and secretary of the Commission and that the three members so appointed serve ex-officio as executive committee of the Commission, whose function shall be to conduct the business of the Cancer Commission in the interim between its meetings;

That said Cancer Commission be and is hereby directed to report to and be guided by instructions of the House of Delegates of the California Medical Association in regular annual convention assembled and that in the interim between said conventions the Cancer Commission be and is hereby directed to report to and receive instructions from the Council of the California Medical Association.

Resolution No. 2, Establishment of a Cancer Commission, was referred to Reference Committee on Resolutions and New and Miscellaneous Business.

* * *

(c) *Resolution No. 3. Survey of Clinics.*—S. J. McClendon of San Diego then presented the following resolution:

Inasmuch as the function of a clinic other than private clinics, is to make available medical service to those not able to pay fully or in part for such service; and

Since such clinics should be so coördinated, as to location and specialization, as to serve the needs of the community in the most economical and purposeful manner; and

Since such a clinic program should be under the control as far as possible of the county medical societies; be it

Resolved, That the California State Medical Association inaugurate, through the county medical societies and in conjunction with existing social service agencies, a survey of existing clinics, of the need of their coördination, and of the need for the establishment of additional clinics; and

Finally, That the California State Medical Association outline a plan of direction for such clinics to be drawn up by the county medical societies in coöperation with the social service agencies and the citizens of the community.

Resolution No. 3, Survey of Clinics, was referred to Reference Committee on Resolutions and New and Miscellaneous Business.

* * *

(d) *Resolution No. 4. Medical Officers' Reserve Corps.* Clarence E. Rees of San Diego then presented the following resolution:

Whereas, The present Army regulations require that every medical service reserve officer shall, during each five years' commission period, put in two hundred (200) hours military work, in camp, correspondence school, in active training meetings, or similar military activity, or else become ineligible for renewal of his commission with assignment to an Organized Reserve Unit, and therefore revert to the "Auxiliary Reserve" in time of peace; and

Whereas, There are many highly trained, highly skilled, and very active physicians who, as reserve officers, have been assigned as chiefs and assistant chiefs of surgical, medical, laboratory, roentgen and other distinctly professional services, and in positions requiring special technical skill such as is usually possessed by specialists, carrying very little administrative responsibility, and whose professional duties in busy private lives make them especially well fitted for their duties in their Army assignments, but whose same duties make it practically impossible for them to carry on military work in time of peace; and

Whereas, Many of these men and their valuable attainments are being lost to the Organized Reserve, although they are willing and anxious to serve their country in time of need and do not aspire to advancement in grade, therefore, be it

Resolved, That the California Medical Association, desiring that the medical profession may be of the greatest service to our country, respectfully suggests that the best interests of the military service might be enhanced if the regulations regarding the Organized Reserve were changed to provide for the recommission and reassignment of officers holding assignments such as those mentioned in the second paragraph, even though they may not have completed the required amount of military work, and hereby recommend consideration of such change; and further be it

Resolved, That a copy of this resolution be sent to the corps surgeon and the commanding general of the Ninth Corps Area, the surgeon general of the Army, the officer in charge of Organized Reserves, the adjutant general of the Army, the chief of staff of the Army, and the secretary of each state medical association.

Resolution No. 4, Medical Officers' Reserve Corps, was referred to Reference Committee on Resolutions and New and Miscellaneous Business.

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(e) F. H. Rodenbaugh of San Francisco moved that the *Resolution on Prohibition* presented at the last annual session be taken from the table. The Speaker ruled the motion out of order.

* * *

(f) *Resolution No. 5. Limitation of Sections at Annual Meetings.*—L. H. Redelings of San Diego presented the following resolution:

Whereas, The space in CALIFORNIA AND WESTERN MEDICINE is limited and more scientific papers are presented than can be printed in any one year, and

Whereas, The time for section programs at the annual meeting is also so limited and such time of meeting and journal space should be equally distributed among the several specialty sections, therefore be it

Resolved, By the House of Delegates that the sections be limited to two scientific sections each, at any annual meeting, provided that this rule shall not apply to the Section on General Medicine or the Section on General Surgery, and that a joint meeting of two or more sections shall not be interpreted as one of the two sessions allowed to any section.

Resolution No. 5, Limitation of Sections at Annual Meetings, was referred to Reference Committee on Resolutions and New and Miscellaneous Business.

* * *

(g) *Resolution No. 6. Invitation to the American Medical Association.*—LeRoy Brooks of San Francisco presented the following resolution:

Whereas, California has not had the honor of entertaining the American Medical Association since 1923; and

Whereas, The San Francisco County Medical Society has extended an invitation to the American Medical Association to hold their next annual session in San Francisco; be it therefore

Resolved, That the California Medical Association endorse the action of the San Francisco County Medical Society by extending a cordial invitation to the House of Delegates of the American Medical Association to meet in San Francisco in 1932; and be it further

Resolved, That a copy of this resolution be sent to the board of trustees of the American Medical Association and that a copy be sent to the individual county societies of the California Medical Association.

Resolution No. 6, Invitation to the American Medical Association, was referred to Reference Committee on Resolutions and New and Miscellaneous Business.

* * *

(h) *Resolution No. 7, Scope of Practice of Health Officers and Health Nurses.*—John C. Ruddock of Los Angeles presented the following resolution:

Whereas, There is criticism of various activities of certain health officers in this state, therefore be it

Resolved, That a special commission be appointed by the Council to investigate this matter and define definitely the scope of practice of health officers and public health nurses as it concerns community and private practice.

Resolution No. 7, Scope of Practice of Health Officers and Health Nurses, was referred to Reference Committee on Resolutions and New and Miscellaneous Business.

* * *

XV. **Reading and Adoption of Minutes.**—Minutes of the meeting were then read, and there being no objection were approved.

* * *

XVI. **Adjournment.**—There being no further business, the meeting adjourned to meet in the same place at 8 p. m. Wednesday, April 29, 1931.

Edward M. Pallette, *Speaker.*
Emma W. Pope, *Secretary.*

Second Meeting of the House of Delegates at Sixtieth Annual Session

Held in the Gold Room, Hotel Fairmont, San Francisco, Wednesday, April 29, 1931, at 8 p. m.

I. **Call to Order.**—The meeting was called to order by the Speaker of the House, Edward M. Pallette of Los Angeles.

* * *

II. **Roll Call.**—The secretary called the roll; 110 members of the House of Delegates, consisting of officers, delegates, or actting delegates, were seated and the Speaker declared a quorum present.

* * *

III. **Announcement of Place of 1932 Meeting.**—The Speaker announced that the next order of business would be the setting of the place of the next annual session, and that the Council had referred to the House of Delegates the question of decision between the Huntington Hotel at Pasadena and the Ambassador Hotel at Los Angeles.

On motion of Fitch C. E. Mattison of Pasadena, seconded by Clarence Toland of Los Angeles, and carried, it was

Resolved, That the next annual session be held at Pasadena.

William H. Kiger of Los Angeles moved that the Hotel Huntington be made headquarters for the 1932 annual session; such motion was seconded by Robert V. Day of Los Angeles and unanimously carried.

The Speaker then announced that the 1932 annual session would be held at Hotel Huntington, Pasadena.

* * *

IV. **Election of Officers:**

1. *President-Elect.*—The speaker announced that the next order of business would be the election of officers, and nominations for president-elect were in order.

Clarence Toland of Los Angeles nominated Joseph M. King of Los Angeles as president-elect; such nomination was seconded by Junius B. Harris of Sacramento.

T. Henshaw Kelly of San Francisco moved that the nominations be closed and the secretary be instructed to cast the ballot; such motion was seconded by Rodney Yoell of San Francisco, and carried.

The secretary cast the ballot, and the speaker announced the election of Joseph M. King of Los Angeles as president-elect.

2. *Speaker of the House of Delegates.*—John H. Graves, vice-speaker of the House, then took the chair and announced that the next order of business would be the election of the speaker of the House of Delegates.

T. Henshaw Kelly of San Francisco nominated Edward M. Pallette of Los Angeles as speaker of the House; such nomination was seconded by Henry Ullmann of Santa Barbara. Clarence Toland of Los Angeles moved that the nominations be closed and the secretary be instructed to cast the ballot; such motion was duly seconded and carried.

The secretary cast the ballot and the vice-speaker announced the election of Edward M. Pallette as Speaker of the House of Delegates for the term of one year. Doctor Pallette then took the chair.

3. *Vice-Speaker of the House of Delegates.*—Alson Kilgore of San Francisco nominated John H. Graves of San Francisco as vice-speaker of the House of Delegates; such motion was seconded by Alexander Keenan of San Francisco. LeRoy Brooks of San Francisco moved that the nominations be closed and the secretary be instructed to cast the ballot; such motion was duly seconded and carried.

The secretary cast the ballot and the Speaker announced the election of John H. Graves as vice-speaker of the House of Delegates for a term of one year.

4. *Election of Councilors.*—The Speaker announced that the next order of business would be the election of district councilors for the third, sixth and ninth Districts.

(a) *Third District.*—The Speaker announced that Henry J. Ullmann of Santa Barbara had been nominated as councilor for the third district on written nomination filed with the secretary, signed by Emmett L. Tisinger of San Bernardino and Walter Pitchard of San Bernardino. William H. Kiger of Los Angeles seconded the nomination and moved that the nominations be closed and the secretary be instructed to cast the ballot; such motion was seconded by T. Henshaw Kelly of San Francisco, and carried.

The secretary cast the ballot and the Speaker announced the election of Henry J. Ullmann of Santa Barbara as councilor for the third district for a term of three years.

(b) *Sixth District.*—The Speaker announced that Karl Schaupp of San Francisco had been nominated as councilor for the sixth district on written nomination filed with the secretary, signed by Philip H. Arnold and LeRoy Brooks of San Francisco. Walter B. Coffey of San Francisco seconded the nomination and moved that the nominations be closed and the secretary be instructed to cast the ballot; such motion was seconded by Alexander Keenan of San Francisco, and carried.

The secretary cast the ballot and the Speaker announced the election of Karl Schaupp of San Francisco as councilor for the sixth district for a term of three years.

(c) *Ninth District.*—The Speaker announced that Henry S. Rogers of Petaluma had been nominated as councilor for the ninth district on written nomination filed with the secretary, signed by Harry Hund, Marin County; Chester Marsh, Sonoma County; Ream S. Leachman, Solano County; M. M. Booth, Napa County, and John W. Green, Solano County. T. Henshaw Kelly of San Francisco seconded the nomination and moved that the nominations be closed and the secretary be instructed to cast the ballot; such motion was duly seconded and carried.

The secretary cast the ballot and the Speaker announced the election of Henry S. Rogers as councilor for the ninth district for a term of three years.

5. *Councilors-at-Large.*—The Speaker announced that the next order of business would be the election of councilors-at-large, to fill the vacancies caused by the expiration of the terms of Doctors Kiger and Ewer.

Fitch C. E. Mattison nominated William H. Kiger of Los Angeles as councilor--at-large; such nomination was seconded by W. H. Daniel of Los Angeles. Robert V. Day of Los Angeles moved that the nominations be closed and the secretary be instructed to cast the ballot; which motion was duly seconded and carried.

The secretary cast the ballot and the Speaker announced the election of William H. Kiger of Los Angeles as councilor-at-large for a term of three years.

Edward N. Ewer of Oakland nominated George G. Reinle of Oakland as councilor-at-large; such motion was seconded by Lemuel P. Adams. T. Henshaw Kelly of San Francisco moved that the nomination be closed and the secretary be instructed to cast the ballot; such motion was seconded by Clarence Toland of Los Angeles and carried.

The secretary cast the ballot and the Speaker announced the election of George G. Reinle of Oakland as councilor-at-large for a term of three years.

* * *

V. **Election of Delegates and Alternates to the American Medical Association.**—The Speaker announced that the next order of business would be the election of delegates and alternates to the American Medical Association.

(*a*) Joseph Catton of San Francisco nominated Dudley Smith of Oakland as delegate to the American Medical Association for the sessions of 1932 and 1933; such nomination was seconded by Langley Porter of San Francisco. William Kiger of Los Angeles moved that the nominations be closed and the secretary be instructed to cast the ballot; such motion was duly seconded and carried.

The secretary cast the ballot and the Speaker announced the election of Dudley Smith of Oakland as delegate to the American Medical Association for the sessions of 1932 and 1933.

(*b*) Joseph Catton of San Francisco nominated LeRoy Brooks of San Francisco as alternate to Dudley Smith of Oakland for the American Medical Association sessions of 1932 and 1933; such nomination was seconded by Irving Ingber of San Francisco. Robert V. Day of Los Angeles moved that the nominations be closed and the secretary be instructed to cast the ballot; such motion was duly seconded and carried.

The secretary cast the ballot and the Speaker announced the election of LeRoy Brooks of San Francisco as alternate to Dudley Smith for the American Medical Association sessions of 1932 and 1933.

(*c*) Robert V. Day of Los Angeles nominated Fitch C. E. Mattison of Pasadena as delegate to the American Medical Association for the sessions of 1932 and 1933; such nomination was seconded by Scott Gleeten of Monrovia. Clarence Toland of Los Angeles moved that the nominations be closed and the secretary be instructed to cast the ballot; such motion was duly seconded and carried.

The secretary cast the ballot and the Speaker announced the election of Fitch C. E. Mattison of Pasadena as delegate to the American Medical Association for the sessions of 1932 and 1933.

(*d*) Francis M. Pottenger of Monrovia nominated Fred B. Clarke of Long Beach as alternate to Fitch C. E. Mattison for the American Medical Association sessions of 1932 and 1933; such nomination was seconded by Robert V. Day of Los Angeles. C. N. Suttner moved that the nominations be closed and the secretary be instructed to cast the ballot; such motion was duly seconded and carried.

The secretary cast the ballot and the Speaker announced the election of Fred B. Clarke of Long Beach as alternate to Fitch C. E. Mattison for the American Medical Association sessions of 1932 and 1933.

(*e*) John Wesley Crossan of Los Angeles nominated Albert Soiland of Los Angeles to succeed himself as delegate, said nomination being seconded by several members.

George G. Hunter nominated William Duffield of Los Angeles as Delegate to the American Medical Association for the sessions of 1932 and 1933; such motion was seconded by Alfred L. Phillips of Santa Cruz.

No other nominations being made, a ballot was taken and, after tallying the votes on the blackboard, the tellers announced to the Speaker that William Duffield of Los Angeles had been elected delegate.

Upon motion of Albert Soiland, duly seconded, the unanimous vote of the House was given to William Duffield as delegate.

(*f*) Scott Gleeten of Los Angeles nominated William H. Gilbert of Los Angeles as alternate to William Duffield for the American Medical Association sessions of 1932 and 1933; such nomination was seconded by William H. Daniel of Los Angeles. Doctor Toland moved that the nominations be closed and the secretary be instructed to cast the ballot; such motion was duly seconded and carried.

The secretary cast the ballot and the Speaker announced the election of William H. Gilbert as alternate to William Duffield for the American Medical Association sessions of 1932 and 1933.

(*g*) George G. Reinle of Oakland nominated Charles Dukes of Oakland as alternate to Irving Ingber to fill the unexpired term of William Stevens, resigned, for the American Medical Association session of 1931 and 1932; such nomination was duly seconded. Robert Peers of Colfax moved that the nominations be closed and the secretary be instructed to cast the ballot; such motion was seconded by Alson Kilgore of San Francisco and carried.

The secretary cast the ballot and the Speaker announced the election of Charles Dukes as alternate to Irving Ingber for the American Medical Association sessions of 1931 and 1932.

* * *

VI. **Prize Awards:**

The Speaker asked that Dr. George Dock, chairman of the Committee on Clinical and Research Prizes, announce the findings of the committee to the members. Doctor Dock then read the following excerpt from the committee's report:

The Committee on Prize Essays recommends that the Clinical Prize be awarded to the author who signs himself "Ambrose Pare" (*Eleanor Seymour, Los Angeles*) for the paper on "The Effects of Incidental Head Surgery in the Course of Pulmonary Tuberculosis."

The committee recommends that the Research Prize be awarded to the author who signs himself "Rene Theophile" (*Eugene Ziskind and Esther Somerfeld, Los Angeles*) for the paper entitled "Meningeal Allergy in Tuberculosis."

The paper on "The Narrow Bispinous Diameter" by "Baudelocque" (*Samuel Hansen, Stockton*), receives honorable mention.

* * *

VII. **Election of Member of the Program Committee:**

John Homer Woolsey of San Francisco nominated Lemuel P. Adams of Oakland as a member of the Committee on Scientific Work for a period of three years; such nomination was seconded by George Reinle of Oakland. Langley Porter moved that the nominations be closed and the secretary be instructed to cast the ballot. Said motion was duly seconded and carried.

The secretary cast the ballot and the Speaker announced the election of Lemuel P. Adams as a member of the Committee on Scientific Work for a period of three years.

* * *

VIII. **Report of the Reference Committee on Reports of Officers and Standing Committees.**—At the request of the Speaker, Joseph M. King of Los Angeles, chairman of the Reference Committee on Reports of Officers and Standing Committees, submitted the following report on behalf of his committee (Joseph King, chairman; Alson Kilgore and Lemuel P. Adams):

1. *Address of the President.*—Your Reference Committee commends the report of the president, Dr. Lyell C. Kinney, which shows thoughtful consideration of the problems that confront the medical profession and recommends plans for their solution. Doctor Kinney's active participation in organization work for the California Medical Association and the report is strongly commended.

2. *Report of the Council.* (a) *Annual Assessment.*—In accordance with the recommendation of the Council, your committee recommends that the dues for 1932 be set at eight dollars per member.

Doctor King then moved for the adoption of this recommendation.

Dr. William Duffield of Los Angeles then addressed the House stating that he and one other member of the Council had voted "no" on the recommendation to reduce the dues, explaining that the reasons therefor were the necessity of greater activity by the medical profession in public health work, education of the laity and the betterment of health laws, etc.

Doctor Kelly, chairman of the Auditing Committee, then outlined the allocations made in the budget for carrying on extension work, and health activities.

J. Rollin French of Los Angeles made a plea against the proposed reduction of dues.

The Speaker then called for a vote on the question of setting the annual assessment at eight dollars. A rising vote was then taken and the motion lost.

On motion of William H. Daniel of Los Angeles, seconded by Fred B. Clarke of Long Beach, and duly carried, the annual assessment for 1932 was set at ten dollars per capita.

(b) *Radio Broadcasting.*—Your committee recommends that the special Committee on Radio Broadcasting be continued and that further study be given the question as suggested by the Council. Adopted.

(c) *Practice of Medicine by Corporations.*—The Committee commends the Council for deploring the practice of medicine by lay corporations and commends its efforts to combat this evil. Adopted.

(d) *Diagnostic Laboratories.*—The Reference Committee commends the action of the Council in declaring it to be the sense thereof and a statement of the ethics involved, that the practice of receiving commissions or compensation for reference of individual patients, directly referable to, and based upon the fees paid by such patients to the laboratory, shall be considered unethical.

Your Reference Committee recommends that the Council bring this to the attention of the component county societies.

Doctor King then moved for the adoption of this recommendation; such motion was duly seconded and carried.

(e) *Woman's Auxiliary.*—The committee commends the earnest thought which the thirteen county auxiliaries formed in California are giving to their activities in order that they may properly supplement the work of the county society with which they are affiliated.

(f) *Honorary Membership.*—As recommended by the Council, your committee recommends that honorary membership in the California Medical Association be granted to Dr. Stanley Stillman of San Francisco.

Doctor King then moved for the adoption of this recommendation, which motion was seconded by O. D. Hamlin of Oakland and unanimously carried.

Doctor King then moved for the adoption of the recommendations contained in the report of the Council as a whole, as amended by the House of Delegates such motion was duly seconded and carried.

3. *Report of the Auditing Committee.*—The report of the Auditing Committee shows that the Association is on a sound financial basis and your committee recommends the adoption of the report as amended by the House.

Doctor King then moved for the adoption of the report of the Auditing Committee as amended by the House; such motion was duly seconded and carried.

4. *Report of the Secretary-Treasurer.*—The report of the secretary-treasurer shows excellent coöperation throughout the Association. Your committee recommends that the report be adopted.

Doctor King then moved for the adoption of the report of the secretary-treasurer; such motion was duly seconded and carried.

5. *Report of the Editors.*—Your committee is impressed with the report of the editor and wishes to call the attention of the members to the fact that the selection of papers for publication is in the hands of the Publications Committee. Adopted.

6. *Report of the Trustees.*—Your committee recommends that the report of the trustees of the California Medical Association be adopted. Carried.

7. *Report of the Legal Department*—The Reference Committee deeply appreciates the interest of the General Counsel, Mr. Hartley Peart, in Association affairs and recommends the re-explanation of the plan of the Council for the assignment of the Indemnity Defense Fund through the state journal or such medium as the Council selects, in order that any misunderstanding may be cleared.

The committee recommends the adoption of the report. Carried.

8. *Pre-Convention Bulletin Reports.*—The reports of officers and standing committees are gratifying. Several committee reports warrant special mention.

Your committee recommends that the House of Delegates express its thanks and its sense of indebtedness to the chairman and the members of the Committee on Public Policy and Legislation for their self-sacrificing devotion of time and energy to the interests of the California Medical Association in matters of pending legislation.

Dr. John H. Graves, chairman of the Committee on Medical Economics deserves special commendation for his interest in the economic problems of medicine.

The report of the Committee on History and Obituaries shows that the compilation of a medical history of California is now under way and your committee urges all county societies to coöperate to this end.

The Reference Committee commends the work of the two special committees: The Committee on Clinical Prizes and the Committee on Medical Practice and Basic Science Acts, and recommends that they be continued and authorized to carry on their work under the direction of the Council.

Doctor King then moved for the adoption of the report of the Reference Committee as a whole as amended by the House of Delegates; such motion was seconded by T. Henshaw Kelly and carried.

* * *

IX. **Report of Reference Committee on Resolutions and New and Miscellaneous Business.**—At the request of the Speaker, Charles Dukes, chairman of the Reference Committee on Resolutions and New and Miscellaneous Business, presented the following report on behalf of his committee (Charles Dukes, chairman; Fitch C. E. Mattison and Robert A. Peers):

(a) *Resolution No. 1. Department of Public Relations.** The Reference Committee recommends the adoption of this resolution as amended by the committee with the approval of Doctor Clarke. Doctor Dukes then moved for the adoption of this resolution; such motion was duly seconded and unanimously carried.

(b) *Resolution No. 2. Establishment of a Cancer Commission.**—The Reference Committee recommends the adoption of this resolution as amended by the committee with the approval of Doctor Kilgore. Doctor Dukes then moved for the adoption of this resolution; such motion was duly seconded and unanimously carried.

(c) *Resolution No. 3. Survey of Clinics.**—The Reference Committee recommends the adoption of this resolution. Doctor Dukes then moved for the adoption of the resolution; such motion was duly seconded and unanimously carried.

(d) *Resolution No. 4. Medical Officers' Reserve Corps.** The Reference Committee recommends the adoption of this resolution. Doctor Dukes then moved for the adoption of the resolution; such motion was duly seconded and unanimously carried.

(e) *Resolution No. 5. Limitation of Sections at Annual Meetings.**—The Reference Committee is in sympathy with the resolution, but feel that it is covered by section 5 of the rules regarding papers and the resolution is therefore presented without recommendation. The Speaker then asked the pleasure of the House of Delegates.

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* See first meeting of House of Delegates for resolutions and amendments thereto.

On motion duly made and seconded, and carried, the resolution was tabled.

(f) *Resolution No. 6. Invitation to the American Medical Association.**—The Reference Committee recommends the adoption of this resolution. Doctor Dukes then moved for the adoption of the resolution; such motion was duly seconded and carried.

(g) *Resolution No. 7. Scope of Practice of Health Officers and Health Nurses.**—The Reference Committee recommends the adoption of this resolution. Doctor Dukes then moved for the adoption of the resolution; such motion was duly seconded and carried.

Doctor Dukes then moved for the adoption of the report of Reference Committee on Resolutions and New and Miscellaneous Business, as a whole; such motion was seconded by O. D. Hamlin and carried.

* * *

X. **Presentation of New Councilors.**—The Speaker then asked the president to take the chair and present the newly elected councilors. Henry Ullmann of Santa Barbara, Karl Schaupp of San Francisco, Henry Rogers of Petaluma, William Kiger of Los Angeles and George Reinle of Oakland were then introduced to the members of the House of Delegates.

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XI. **Presentation of the President.**—President Lyell Kinney appointed as escorts to the incoming president, George Reinle of Oakland and T. Henshaw Kelly of San Francisco. Junius B. Harris was then presented to the House of Delegates and thanked the Association for the honor conferred on him.

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XII. **Presentation of the President-Elect.**—President Lyell C. Kinney appointed Clarence Toland of Los Angeles and William Duffield of Los Angeles as escorts to the incoming president-elect. Joseph M. King of Los Angeles was then presented to the House. Doctor King expressed deep gratitude for the honor conferred on him. Doctor King spoke with regret of the illness of Dr. Gayle Moseley of Redlands and Dr. Morton Gibbons of San Francisco.

On motion of Joseph M. King, duly seconded and unanimously carried, the secretary was instructed to inform Dr. Gayle Moseley that we regret his absence and we hope for his eventual recovery and to express to Dr. Morton R. Gibbons the fact that we miss him and hope for him a speedy and successful outcome of the operation which he undergoes tomorrow morning. Doctor King requested that the message be transmitted to Doctor Gibbons before he went on the operating table.

* * *

XIII. **New Business.**—The Speaker stated that the order of business for the meeting did not include any new business or resolutions and that some of the members were desirous of presenting further resolutions, but that this could only be done if such action was approved by a two-thirds vote of the House.

Henry Ullmann of Santa Barbara then moved that the order of business be waived to permit the introduction of resolutions and new business; such motion was seconded by Alexander Keenan. A rising vote was then taken. Thirty-eight ayes, twenty-seven noes. Motion defeated.

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XIV. **Reading and Adoption of Minutes.**—The minutes of the meeting were then read. T. Henshaw Kelly moved that the minutes be adopted as read; such motion was duly seconded, and there being no objection the minutes were approved.

* * *

XV. **Adjournment.**—There being no further business, the meeting adjourned.

Edward M. Pallette, *Speaker.*
Emma W. Pope, *Secretary.*

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* See first meeting of House of Delegates for resolutions and amendments thereto.

PRE-CONVENTION BULLETIN*†

REPORTS OF DISTRICT COUNCILORS

FIRST COUNCILOR DISTRICT

Imperial, Orange, Riverside and San Diego Counties

To the President and House of Delegates:

I herewith submit my report for the First District of the California Medical Association.

On February 14, 1931, a joint meeting of the Imperial and San Diego County Medical Societies was held at El Centro. A dinner was served at the Barbara Worth Hotel, following which an address was delivered by our California Medical Association President, Dr. Lyell C. Kinney on the X-Ray Diagnosis of Sinus Disease. This was discussed by Dr. Charles L. Davis, late of the Sluder Clinic of the Universtiy of Washington. A most instructive and enjoyable meeting was held. These are annual affairs between these two societies, the Imperial Valley Society acting as host.

Regular monthly meetings of the Orange County Medical Society are held. It has been the Councilor's pleasure and privilege to attend a number of these meetings. The Orange County Medical Society is one of the most alert and active medical societies it has ever been the writer's pleasure to know. The members are a wide-awake, progressive group, who have the interest of scientific medicine at heart.

Riverside County supports a very active, progressive society which has had a number of out of the city men address them. Their meetings are held on the second Monday of each month at the Riverside Community Hospital.

The San Diego County Medical Society holds regular monthly meetings at which time a dinner is served. Following the dinner an out-of-town guest presents the scientific program. This society has been particularly fortunate during the past year in the high-class type of speakers the program committee has provided. An unusually large average attendance prevails.

Respectfully submitted,
Mott H. Arnold, *Councilor,*
First District.

SECOND COUNCILOR DISTRICT

Los Angeles County

To the President and House of Delegates:

The Councilor from the Second District has found it quite impossible to visit all of the branches and sections of this Association during the year, but he has visited many of them, and has found a greater interest in the organization as such, and the economic side of medicine than he has hitherto known.

The total paid membership to April 15 is 1,580, as against 1,550 at this time in 1930. The delinquency list is 321—at least fifty more than last year. No doubt the financial depression is responsible for this larger percentage. The Association carries on its rolls fifty-one honorary and military members of various classes not paying dues. There is a leave of absence roll of fourteen. There are forty-one applications for membership on file. The paid membership in the various branches is as follows: Pasadena, 90; Harbor, 75; Glendale, 42; Santa Monica, 40; San Fernando, 30; Southwest, 15; Monrovia, 14; Alhambra, 17; and Pomona, 21. Thus it will be seen that the Los Angeles County Medical Association has a potential membership of 2,000, which can be brought in excess of that number during the ensuing year.

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* These Pre-Convention Bulletin reports are printed as an appendix to the Minutes of the House of Delegates.

† Ed. Note: Item XII of the Minutes of the First Meeting of the House of Delegates held on April 27, 1931, refers to the reports printed in the Pre-Convention Bulletin. Items V to X inclusive of those minutes deal with reports of general officers. The reports of other officers are here printed to complete the minutes of the House of Delegates. See pages 425-431 for reports of general officers.

The meetings of the branches and sections are well attended. The scientific programs are of a high order and the discussions are illuminating. The proportionate attendance at these meetings is far in excess of the attendance at the general meetings which are seldom attended by more than ten or fifteen per cent of the membership, even though distinguished guests or most interesting local numbers are presented. The officers are endeavoring to secure greater interest with social features, such as dinners and lunches in connection with special scientific or organization programs. However, the demands for attendance upon Branch, Section, Hospital Staff and Committee meetings no doubt accounts for the light attendance upon general meetings of the Association. To this problem there seems to be no present solution.

This Councilor wishes to express the opinion that the work of the Woman's Auxiliary has stimulated a greater interest in the Association on the part of the husbands and other relatives, and that this organization in Los Angeles County has proven its value in the scientific, economic, political and social life of the Association and community.

There has never been a heartier, a more sincere or more determined coöperation of the membership in matters of public policy, both local and state, than there has been during the past year. It has been demonstrated that this membership and its affiliated organizations under proper leadership can wield a most powerful influence for the good of the profession and the community. There is not sufficient space for outline of a plan for the welding of the several allied professions of law, dentistry, pharmacy, nursing and medicine into a weapon for defense and an instrument for the culture of professional rights, but such an organization has functioned and has demonstrated its feasibility and usefulness to a degree justifying its continuance, enlargement and imitation by Associations throughout the state.

Respectfully submitted,

William Duffield, *Councilor.*
Second District.

THIRD COUNCILOR DISTRICT

Kern, San Bernardino, San Luis Obispo, Santa Barbara and Ventura Counties

Doctor Gayle Moseley, councilor for the Third District, visited Santa Barbara County Society during the year and reported that he found a splendidly active, smooth-running organization.

Since early winter, Doctor Moseley has been unable, because of his health, to visit the other societies in his district. He sends his greetings to the House of Delegates and his wishes for a most successful meeting.

FOURTH COUNCILOR DISTRICT

Calaveras, Fresno, Inyo, Kings, Madera, Mariposa, Merced, Mono, San Joaquin, Stanislaus, Tulare and Tuolumne Counties

To the President and House of Delegates:

San Joaquin County has a very live society with seventy-six active members and one retired member, out of 110 licentiates in the county. The meetings are held regularly and are well attended. Good programs are provided. The April meeting was a joint meeting with the Dental Society. Local as well as outside men are the speakers.

Stanislaus County Society continues to maintain its high ratio of membership. While there are only 39 members out of 51 licentiates, of these nine are not in practice; the other three are eligible. This society was quite fortunate in having President Lyell C. Kinney in March. There was a large attendance and Dr. Kinney delivered his messages in a most splendid manner. Representatives from San Joaquin, Merced and Tuolumne Counties were present, with a total attendance of sixty. Tuolumne County Society still maintains its integrity with only six members. No regular meetings are held, but the members meet when any particular matter needs consideration. The State Secretary referred to me a letter from the A. M. A. asking why the charter of this Society should not be withdrawn. Since this is an old organized institution with many traditions in an historic community, I am much opposed to any such action.

Merced County Society maintains the highest ratio of membership per number of licentiates of any society in District Four. Regular meetings are held and have fine attendance. Most meetings are held in Merced, although a few meetings each year are held in other towns of the County. There are a few problems in this County that I wish to present at the next Council meeting.

Fresno County Society has the largest number of members of any society in this district. It is in a prosperous condition. The meetings are well attended and much interest is displayed in the programs. Local and outside men are the speakers. The California Medical Association President, Dr. Lyell C. Kinney, was the speaker at the March meeting. His message was well received and highly complimented by the men present.

Representatives from Tulare County were present. Fresno has added to its membership men from Madera and Kings Counties. They are much interested in the formation of a Woman's Auxiliary and it was suggested that at least one of the leaders of the Auxiliary contact the President or Secretary and arrange for someone to visit Fresno and assist in the preliminary organization.

The Tulare County membership is hardly as large as it should be for the number of licentiates. An active drive for members is advised. They have regular meetings with speakers from Fresno, Los Angeles, and San Francisco. They continue to have their annual joint meeting with the County Bar Association. These meetings are particularly well attended and seem a worthy example for other societies to follow.

The members of the profession who live in other counties in District Four have no local organization but are affiliated with their nearest county unit. Thus Calaveras County, with nine licentiates has eight members in San Joaquin County Society. Inyo County with fourteen licentiates has nine members in Fresno County Society and one member in Tulare County Society. Madera County with fifteen licentiates has five members in Fresno County Society, two in Merced County Society, and one each in Tulare County Society and San Joaquin County Society. Mariposa County with two licentiates has one member in Merced County Society. Mono County has only one licentiate who is a member of Fresno County Society.

Respectfully submitted,

Fred R. De Lappe, *Councilor.*
Fourth District.

FIFTH COUNCILOR DISTRICT

Monterey, San Benito, San Mateo, Santa Clara and Santa Cruz Counties

To the President and House of Delegates:

As Councilor of the Fifth District, I wish to make a report of county society activities during the past year.

Monterey County Society has about thirty-six active members. Some interesting meetings have been held and were well attended. A meeting which was held at the new Grace Deere Velie Metabolic Clinic at Carmel was well attended and gave the members an opportunity of inspecting this fine institution.

San Benito County Society with a small membership has not been very active within itself but had a good representation at the annual tri-county meeting at Gilroy. Some of the members frequently attend the meetings of the Santa Clara County Society. The present membership is seven.

San Mateo County Society has had the usual monthly meetings and has been addressed by both local members and invited speakers. The annual barbecue was an event of the year.

Santa Clara County Society has an interesting program each month. The annual tri-county meeting at Gilroy arranged by this Society had the usual good attendance and was addressed by Dr. Walter B. Coffey. A meeting was held at the San Jose Country Club on March 11 at which President Lyell C. Kinney was the principal speaker.

Santa Cruz County has had few meetings during the year and these have been poorly attended. At a meeting held on March 15, Doctor Chauncey Leake of the faculty of the University of California Medical School gave a very interesting and instructive address on the subject of modern therapeutics.

Respectfully submitted,

Alfred L. Phillips, *Councilor,*
Fifth District.

SIXTH COUNCILOR DISTRICT

San Francisco County

To the President and House of Delegates:

The medical profession of the Sixth District is slowly awakening and beginning to realize that they must get up and do something about economic problems. As my colleagues know, I have given a great deal of study to the increasing cost of hospital and medical care and have tried to give the profession my best constructive thought of ways and means to solve some of these pressing economic problems and thereby prevent state medicine or some imported form of social health insurance. As on so many other current questions, doctors exercise their well-known tendency to disagree on this great economic question. Some members of the profession who have had little or no practical experience in constructing or conducting hospitals or furnishing medical care in a large way, and others who have very recently become interested in medical economics, are confusing the public by theoretical discussions on medical insurance of the academic type.

It is the duty of all of us who have the welfare of the public and the profession at heart to be vigilant and not permit paternalistic schemes which tend toward the socialization of medicine to gain headway. Socialism has been called a disease which lulls its victims into security by filling them with delicious dreams. It seems to me that some are giving an example of misdirected energy in agitating this question without first getting the facts. When the Committee of Cost of Medical Care, headed by one of our most learned and distinguished members, Dr. Ray Lyman Wilbur, furnishes the profession its full report, we shall have more definite information before us to make a scientific determination of certain essential angles of this question.

The health needs of the people of the Sixth District of the California Medical Association from the standpoint of curative and preventive medicine are being efficiently cared for. San Francisco is the home of two splendidly staffed Class "A" medical colleges. Our hospitals have won encomiums from national inspectors and recognized authorities. The physicians of this district, as able and devoted a group as any to be found anywhere, resemble their colleagues elsewhere in this common characteristic—they are mostly individualists. When trying to adopt a policy for the solution of any vital problem which requires coöperation, it is important to keep in mind that the individualist is not always willing to coöperate. This obviously weakens the position of the profession with the public. It is unfortunate as well as unscientific when individualists rush in to condemn without obtaining facts and without waiting for time and results which are the dual and decisive tests of the deeds and discoveries of men.

One most honored philosopher has declared that condemnation is too often only a way of displaying superiority; it speaks from outside the scene; it discloses symptoms but not causes.

The election to the office of Councilor is not to exalt an individual but to give an opportunity for greater service. I wish to thank most heartily my generous colleagues of the Sixth District who insist that I remain as Councilor, although I have repeatedly told them that the increasing demands upon my overcrowded hours would require heroic sacrifices on my part to continue to serve as Councilor of the Sixth District. I must also express my sincere appreciation for the many fine letters and messages of similar import coming from leading members of my profession from all districts and sections of California. I shall, of course, when fully persuaded in my own mind, be guided by what I believe to be the best interests of the California Medical Association, and, without any personal consideration whatsoever, shall always endeavor to advance medical aims and agencies which serve the patients best.

Respectfully submitted,

Walter B. Coffey, *Councilor,*
Sixth District.

SEVENTH COUNCILOR DISTRICT

Contra Costa and Alameda Counties

To the President and House of Delegates:

In accordance with your request I beg to submit the following report of the activities of the Alameda County Medical Association and Contra Costa Society for the year just past.

This district is fortunate in that its members are, in the main, mindful of their obligations to organized medicine, and are ever ready to give of their time and support to those things which are for the best interests of all. Interest in the medical problems of lay organizations has widened and many of our members are serving as medical advisors in such lay organizations as the County Health Centers, the Parent-Teachers' Association in connection with their health programs, and numerous service clubs.

New members about forty in number joined the Alameda Association, bringing with them in many instances the enthusiasm and scientific ground work of the recent graduate, have been added, through our Society, to the ranks of organized medicine. The health and vigor of our organization is well illustrated by this yearly increase in members, which more than keeps pace with the increase in the medical population of our county.

The eleven scientific programs of the year have been truly worth while, and the part played in them by the hospital staffs has served but to emphasize the place of each in the scheme of medical things, and to remove entirely that sense of rivalry which sometimes exists between the two. Through its committee on medical economics, we have made a start toward the solution of the lay hospital associations' problem, which, for so many years, has been a "thorn in the flesh" to all medical societies of the State. This committee has also been most active in the study of the general problems of medical economics and it is with pride that we review its unexcelled work. Our Association is aiding in a constructive county program to place the administration of all county medical activities relating to the prevention of disease and the promotion of health, as well as to the care of the sick under a proper County Health and Hospital Commission, and we look forward to the coming year as one in which all of these activities may be advanced, if not brought to a satisfactory conclusion.

The Contra Costa County Society has had unusually active and instructive meetings and has joined with the Alameda County Medical Association in several joint sessions.

Respectfully submitted,

O. D. Hamlin, *Councilor,*
Seventh District.

EIGHTH COUNCILOR DISTRICT

Alpine, Amador, Butte, Colusa, El Dorado, Glenn, Lassen, Modoc, Nevada, Placer, Plumas, Sacramento, Shasta, Sierra, Sutter, Tehama, Yolo and Yuba Counties

To the President and House of Delegates:

The councilor of this district was unable, because of a number of reasons, to make a visit to each of the component county societies in his district. The Eighth District comprises all that part of California lying north of San Joaquin and Amador counties, east of the Sacramento River, and also Yolo, Colusa and Glenn and part of Tehama, Shasta and Siskiyou counties lying to the west of the Sacramento River. This is an area larger than that of many entire states. Many of these counties are sparsely settled and distances are very great. It includes eighteen counties and eight county medical units.

Your councilor attended in September, in company with the president-elect, Dr. J. B. Harris, a meeting of the Lassen-Plumas County Medical Society. Steps have been taken to interest the medical men of Modoc County, where no county society exists, to affiliate with the Lassen-Plumas County Society. To date no action has developed.

On March 4, 1931, your councilor visited a joint meeting of the Sacramento, Yuba-Sutter and Yolo-Colusa-Glenn units. The meeting was held in Sacramento to receive President Lyell C. Kinney and General Counsel Hartley F. Peart of the California Medical Association. About one hundred and twenty-five medical men were present from these different county units.

On March 5, 1931, the councilor visited, in company with the same state officers, the Placer-El Dorado-Nevada-Sierra County unit at Auburn. There was an attendance of twenty-two.

On March 6, 1931, again in company with Dr. Kinney and Mr. Peart, the councilor visited a joint meeting of the Butte, Lassen-Plumas, Shasta and Tehama County units in Chico. There were thirteen present.

Dr. Harris, president-elect, was present at the Sacramento and Auburn meetings. These meetings were all enthusiastic and your officers were cordially received. It is the opinion of the councilor of the Eighth District that the action of President Kinney in visiting the various county societies during the presidential year is a most excellent one and one which could well be made a regular routine for the years to come.

The councilor of the Eighth District believes that the various county organizations in his district are working for the best interests of medicine and in harmony with the State Association. The district has been fortunate in having no serious problems and no disputes among the members during the year 1930-1931—at least none have been brought to the attention of your councilor.

Respectfully submitted,

Robert A. Peers, *Councilor,*
Eighth District.

NINTH COUNCILOR DISTRICT

Humboldt, Lake, Marin, Mendocino, Napa, Siskiyou, Solano, Sonoma and Trinity Counties

To the President and House of Delegates:

A brief report for the Ninth Councilor District is submitted for 1930 and 1931.

During the past year the custom of joint society meetings inaugurated in 1928 has been continued, thereby increasing interest and attendance at the society gatherings. Napa, Sonoma, Marin, and Solano counties have held four of these joint meetings. Gathering for seven o'clock dinner and social hour, followed by a scientific paper, or symposium, then a business session, where the various problems facing the profession were freely discussed.

Early in May the Sonoma and Solano County Societies were entertained by Napa County Society at the Napa Golf and County Club, the guest of honor being Dr. J. B. Harris, president-elect. Dr. Gundrum and associates from Sacramento gave a symposium on diseases of the heart.

On May 21 a special joint meeting was held at the Sonoma Mission Inn and, with the auxiliaries present, was a splendid meeting. Dr. Karl Meyer, in one of his chacarteristic talks, described the Hooper Foundation and what research they were doing in their various lines of endeavor; also a description of his recent trip abroad.

In November, the Napa, Solano, Sonoma, and Marin County Societies and Auxiliaries were the guests of the Petaluma physicians at the Petaluma Golf and Country Club, Dr. Hans Lisser being the speaker of the evening.

On March 8, 1931, the Humboldt County Society held a meeting at the Humboldt Golf and Country Club, entertaining visitors from Mendocino and Del Norte counties. Dr. Kinney and Mr. Peart spent the morning visiting the famous Redwoods at Dyerville. The afternoon meeting was enthusiastic, followed by a delightful dinner and discussion.

On March 12, 1931, another joint meeting was held at the Sonoma Mission Inn, Napa, Solano, and Marin counties being the guests of Sonoma County. Dr. Lyell Kinney and Dr. J. B. Harris were the principal speakers, followed by short talks by each president of the four societies represented. This was a splendid meeting.

The societies of this district are alive, holding monthly meetings with a dinner preceding the meeting. The enthusiasm with which our president, Dr. Kinney, was greeted shows the spirit of the physicians composing the societies in this district.

The Ninth District is large, geographically, and a little difficulty is found in visiting all of the societies during the year. However, during the past year all county medical societies have been visited by your councilor, some of them three and four times. At these visits a detailed résumé was given of the Council and Executive meetings, followed by a general discussion of the policies of the State Association.

Respectfully submitted,

Henry S. Rogers, *Councilor,*
Ninth District.

REPORTS OF COUNCILORS-AT-LARGE

To the President and House of Delegates:

One of the medical problems which has of late occupied my attention has been the endeavor to coöperate with certain medical groups and some lay organizations in the South to bring about changes in the lunacy laws of California. Among these desired amendments have been:

First—An attempt to provide that the California Director of Institutions shall be a physician.

Second—That the superintendency of the State Hospital at Patton shall be open to any qualified physician. At present the law provides he shall be a graduate of a homeopathic medical school.

Third—The opening of all the county psychopathic hospitals of the state for voluntary patients, thereby securing to the mentally sick the same privileges and opportunities as are now available to the medically and surgically ill.

Fourth—A measure providing that, after information of insanity is filed in the courts, patients may, at the discretion of the judge, remain in their homes, in private institutions, or other habitations until the time of the public hearing, and

Lastly, an amendment designed to permit commitment to state or private hospitals by the judge after an examination and sworn statement from two medical examiners, such commitment to be made only where no public hearing is demanded either by the patient or by any member of the patient's family.

It is anticipated that this last measure will meet with considerable resistance and may fail of passage, but a considerable group of the profession believe it as well as the other measures meritorious. It has been your councilor's privilege and pleasure to give aid in these matters and to solicit and obtain the approval of the Council and the support of Dr. Harris, the chairman of the Committee on Public Policy and Legislation, in the work at Sacramento.

We hope to pursue the matter of improving legislation with respect to lunacy matters another year and it is to be hoped that sooner or later we may convince the legislature of the folly of a jury trial in lunacy cases.

Respectfully submitted,

George G. Hunter, *Councilor-at-Large.*

To the President and House of Delegates:

As one of the Councilors-at-Large it has been my privilege to attend the regular sessions of the Council and to maintain an active interest in the many problems which are before the California Medical Association and its component county societies.

During the last year I have tried to attend the meetings of as many county societies in Southern California as possible. It has been my observation that these societies are well organized and that many of the members are much interested and are alert to the medical, economic and other problems which today face our profession.

It does seem to me, however, that every component county society in Southern California might well make an extra effort during the coming year to bring into active affiliation with organized medicine all non-members of the county societies, who from the standpoint of education and training and other qualifications might be desirable additions to our membership roll. It seems to me that every county society owes it to itself to have an active Membership Committee to annually make a survey of non-members in order to determine who such eligible non-members are.

Respectfully submitted,

Ruggles A. Cushman, *Councilor-at-Large.*

To the President and House of Delegates:

In my visits to various medical groups during the past year I have been more and more impressed with the value of organized medical expression of opinion and activity concerning the portion of medical practice which may be referred to as "medical social."

Some two years ago, lastly, through such steps, a bill was introduced and found its way into the body of the law of this State which has done away in large manner with the former conflicting testimony of medical experts. I am referring to the section of the Code which now makes it mandatory on the court to appoint three unbiased experts whenever plea of insanity is raised in a criminal case.

The California Medical Association is active at the present time in an effort to make more humane and more scientific the manner of commitment, housing and care of the mentally afflicted.

One thing I would like to stress is this—that wherever any question which involves the whole medical profession in its relationship to the courts or any other state or municipal body arises, that individual medical men should be most careful in expressing opinion or taking action until they have conferred with officers who are representatives of the medical profession. These conferees will be found to be surprisingly well advised on the problem which is being considered, and to have available in the archives of the Society much information and data which will guide physicians toward a proper attitude of mind concerning the particular problem under consideration.

My contacts with groups other than medical ones lead me to believe that society is more and more ready and anxious to hear from the medical men on various questions and problems. We have at least more of an opportunity to be heard. Let us not, however, speak our individual voices in the confused mass of contradictory opinions, allowing persons untrained to make their own decisions and do possible damage to the public health. Rather as already stated above have a lively interest in the public health and in the relations of your medical profession to the Society and to the public, but travel with the well-considered, well-advised authoritative opinion of your profession.

Respectfully submitted,

Joseph Catton, *Councilor-at-Large.*

To the President and House of Delegates:

Having only recently been reappointed to the Council to fill a vacancy, I am not in position to make a report at this time.

I am able to state, however, that in my contacts with county societies in the southern part of the State, I have found members everywhere, seemingly more than ever, interested in many of the medical, economic and other problems which have come to the front in recent years.

Respectfully submitted,

William H. Kiger, *Councilor-at-Large.*

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* The elected members of the Council consist of six councilors-at-large, nine district councilors, each of the latter representing a district or group of counties. These councilors-at-large, as officers, have their official responsibilities. Article XII, Section 3, which provides for a "Pre-Convention Bulletin," states that the Bulletin shall contain a report from every officer. To that end the councilors-at-large were requested to send in reports on any matters in which they were interested and which perhaps might be worthy of consideration by the reference committees and House of Delegates.

REPORTS OF STANDING COMMITTEES

COMMITTEE ON ASSOCIATED SOCIETIES AND TECHNICAL GROUPS

Executive Group

R. Manning Clarke, Chairman, 1931
Harold A. Thompson, 1932 George H. Kress, 1933

To the President and House of Delegates:

Herewith find report of the Committee on Associated Societies and Technical Groups:

1. By action of the Council of the California Medical Association the State Committee on Associated Societies and Technical Groups was made the contact committee with the Woman's Auxiliary of the California Medical Association.

During the year just closed the state and county auxiliaries have presented a record of their activities in CALIFORNIA AND WESTERN MEDICINE. Those reports indicate an active growth and an accomplishment that must be very gratifying.

At the time this report is made, in addition to the State Woman's Auxiliary, there are component county auxiliaries in the following counties:

Alameda, Contra Costa, Kern, Los Angeles, Monterey, Napa, Orange, Sacramento, San Bernardino, San Diego, San Luis Obispo, Santa Barbara and Sonoma Counties.

The Woman's Auxiliary of the California Medical Association practically came into existence last year on a somewhat tentative plan of organization. It naturally followed that as experience was acquired by the auxiliary units that they would wish to adopt for themselves by-laws and rules of procedure that would work to the further development of the auxiliaries already existing, and of the other county units which it was hoped to bring into existence. In this drafting of rules of organization your special committee, as well as the Executive Committee and Council have all given service.

The one particular point that has been constantly emphasized is that the county auxiliaries should always work through their respective county medical associations, and that the state woman's auxiliary was to work through the State Medical Society; and that in matters of public expression of opinion or of attitude on political or similar procedures that the consent of the California Medical Association and its proper component county medical society should always be obtained. In this way it has been possible to avoid complications and misunderstandings which could imperil the end results of matters in which both the medical society and the woman's auxiliary might be mutually interested.

2. In the matter of more intimate contacts with associated technical groups such as that of nursing, laboratory technicians, et cetera, no very great effort was made during the last year, but it is hoped that during the coming year these activities may receive more consideration.

3. As regards associated organizations such as those of dentistry and pharmacy, only nominal contacts have been made in most parts of the State. In Los Angeles, however, a closer affiliation has been created through the institution of a society known as the "California League for the Preservation of Professional Rights." That League has a Council composed of four executive groups of five members each, each group representing the respective professions of medicine, law, dentistry, and pharmacy. It is significant that during the present legislative session it was possible for this League to coöperate in legislative matters in which the California Medical Association was interested.

4. This Committee again recommends that the Council pass a resolution whereby that body, through its own action, if pertinent at the time, or through the appointment of a special committee consisting of the President, the President-elect and the Chairman of the Council, have power to appoint fraternal delegates to neighboring state medical associations such as Nevada and Utah, which organizations utilize CALIFORNIA AND WESTERN MEDICINE as their official publication.

Respectfully submitted,
R. Manning Clarke, *Chairman.*

COMMITTEE ON EXTENSION LECTURES

Executive Group

Robert T. Legge, Chairman, 1931
James F. Churchill, 1932 The Secretary, Ex-officio
Robert A. Peers, 1933

To the President and House of Delegates:

The Committee of the California Medical Association on Extension Lectures, consisting of Dr. R. T. Legge, Chairman, Dr. Robert A. Peers, and Dr, James F. Churchill and Dr. Emma Pope, ex-officio, desires to submit its annual report for the year 1930-31.

A list of lecturers, principally members of the Association, has been prepared with the titles of their particular lectures and has been published in CALIFORNIA AND WESTERN MEDICINE.

Various county units desiring speakers for special occasions have been served through the Secretary of the Association.

The Committee requests that members of the Association who have been doing research work or have developed some special technique in the medical sciences which would be interesting to our county medical societies, submit their names and the titles of their papers to the Secretary of the Association, so they can be compiled in next year's list of extension lectures.

Your Committee sincerely hopes that the various county units will take advantage of the Extension Lecture service.

Respectfully submitted,
Robert T. Legge, *Chairman.*

COMMITTEE ON HEALTH AND PUBLIC INSTRUCTION

Executive Group

Fred B. Clarke, Chairman, 1932
Gertrude Moore, 1931 Henry S. Rogers, 1933

Advisory Group

George G. Reinle, Oakland	Stuart Z. Peoples, Petaluma
Henry Snure, Los Angeles	Robert T. Sutherland, Oakland
Walter P. Bliss, Pasadena	J. Walter Seawell, Healdsburg

To the President and House of Delegates:

The members of your Committee on Health and Public Instruction feel, as do some of the Councilors, that it would be highly advantageous to develop a Health Exhibit for the two major fairs in our State as well as some of the larger county fairs.

This exhibit should combine the activities of various groups such as the State Board of Health, State Tuberculosis Association, Child Welfare, etc. Exhibits from two medical schools, disease prevention charts; also, if possible, it would be well to give periodic health examination demonstrations for babies, children and adults. It would be possible to secure motion pictures of various subjects which would be interesting to the laity, as well as charts, lantern slides and lectures.

It would seem that an undertaking of such scope would require an enormous amount of time and thought, if we are to have an exhibit of which members of the State Association could be proud. Therefore, the Committee makes the suggestion that someone from the central office of the Association, if such a person is available, and if not someone hired on a salary for a few months, organize and develop such a health exhibit. We make this suggestion because we feel that a Health Exhibit sponsored by the State Medical Associaion should be one of which we could be proud and quite naturally it would take a great deal of time to organize.

The idea of the Committee would be to ask the two medical schools in San Francisco to prepare exhibits of pathological specimens since the public would be very much interested in the changes that take place due to disease and in learning the difference that there is between normal specimens and pathological ones. The subject of tuberculosis could be very well covered by pathological specimens to be compared with the normal and the same is true of cancer. These specimens could be accompanied by cards and it would also be possible to have lantern slides showing various types of bacteria and the changes in the organs of the body brought about by them, if it could also be arranged to have lecturers to give ten-minute talks.

The medical schools might also arrange an exhibit dealing with disease of the heart and what measures have been taken at the present time to prevent heart disease.

The State Veterinary office could develop a very interesting exhibit covering the efforts made to protect human beings from milk infections, meat, etc. The public might also be interested in the methods used to determine the presence of tuberculosis among dairy herds of the State. Doubtless, there are a great many people who would be interested in meat inspection.

The State Tuberculosis Association could also have a very excellent exhibit and it would seem that a clinic on child welfare, prenatal care, and maternal care would be very well received.

It would be possible to secure motion picture films on subjects that are always of a great interest to the laity and the securing of these films would be the least difficult of any of the features. Firms selling x-ray equipment undoubtedly would be interested in an exhibit of films that would demonstrate the value of x-ray in determining of the seat of diseased processes.

As to whether or not it would be possible to develop a group clinic for the purpose of demonstrating the manner and methods of complete physical examination, in order to demonstrate the value of yearly health examinations, is perhaps somewhat questionable until the other features of the exhibit have been pretty well established.

Such an exhibit would take time and money but it would seem that it would be well worth while. Members of the Committee are perfectly willing to coöperate in every way possible, but feel that it is too much of an undertaking for a small committee composed of men busy with their private practice as they could not devote the time necessary to develop the proper kind of an exhibit.

Respectfully submitted,

Fred B. Clarke, *Chairman.*

COMMITTEE ON HOSPITALS, DISPENSARIES AND CLINICS

Executive Group

John C. Ruddock, Chairman, 1932
Walter B. Coffey, 1931 Gayle G. Moseley, 1933

To the President and House of Delegates:

Meetings of the Committee: The Committee is composed of three members of the Society, Dr. Gayle G. Moseley, Dr. Walter B. Coffey, and Dr. John C. Ruddock, Chairman. There have been no meetings of this Committee since the last meeting of the California Medical Association at Del Monte, although there have been personal interviews among its members and correspondence among the Committee.

Work Accomplished: At the meeting of the California State Medical Association at Del Monte, a report of this Committee was adopted which gave a rough survey of clinic activities in this State, and brought before the delegates to that convention an understanding of the evils which have and might accrue from a lack of regulation of clinical activities. It was also brought out in the report the effect of numerous unregulated clinical groups on the cost of medical care. It was further brought out in that report the lack of coöperation between the social worker and the medical doctor.

The survey of medical facilities in this state was very inadequate, and it was hinted in the report that there are a great many organizations which operate under the name of clinic, usurping medical practice, and which this Society does not recognize as medical units.

These evils were shown and it was recommended that legislation be endorsed by the California Medical Association defining the use of the word "clinic," and regulating such clinics as now are in existence by improving their standards. These standards would fall into three groups:

1. Medical service.
2. Social service.
3. Administrative service.

Realizing the importance of standardization towards curbing unrecognized medical groups, a very representative committee, embodying practically every branch of clinical service as found in any large community, was appointed under the auspices of the Community Welfare Federation of Los Angeles, and the chairman of your Committee was made the chairman of this group. After many stormy meetings there was finally adopted a standardization program for clinics; and it is my pleasure to submit to you for your consideration this minimum "Standard for Clinics."

With this standard as a basis, and with the laws that are now in force in the state of Massachusetts, and the state of New York, which define and license clinics, there is submitted for your approval a tentative outline of a legislative bill defining the clinic for the State of California. This tentative bill, which is herewith submitted for your consideration, may need adjustment by the Legislative Committee before final endorsement by this Society is given; and it is suggested that this be referred to the Legislative Committee for further action.

This Committee felt that further surveys would be a useless expense, both in time and money, unless that survey was a very complete one of all the medical facilities of the State of California, inasmuch as the members of the Society are cognizant of the evils with which we are contending.

Respectfully submitted,

John C. Ruddock, *Chairman.*

COMMITTEE ON INDUSTRIAL PRACTICE

Executive Group

Ross W. Harbaugh, Chairman, 1931
Packard Thurber, 1932 Mott H. Arnold, 1933

To the President and House of Delegates:

In response to your communication of February 13, 1931, I would state that the Committee on Industrial Practice have held no formal meetings up to date, principally for the reason that there has been no particular business to discuss.

I can only state, then, that insofar as the Committee is aware of, there are no outstanding matters to be decided.

Speaking in general terms, it is my opinion that Industrial Practice is at the present time being carried along in a fairly satisfactory manner to all parties concerned.

Respectfully submitted,

R. W. Harbaugh, *Chairman.*

COMMITTEE ON MEDICAL EDUCATION AND MEDICAL INSTITUTIONS

Executive Group

George Dock, Chairman, 1932
H. A. L. Ryfkogel, 1931
George G. Hunter, 1933

To the President and House of Delegates:

In response to your request for a report from the Committee on Medical Education and Medical Institutions of the California Medical Association, I beg to say that the members of the Committee have assiduously investigated the subject and in the absence of a formal report, request it be continued.

Respectfully submitted,
George Dock, *Chairman.*

COMMITTEE ON MEDICAL DEFENSE

Executive Group

George G. Reinle, Chairman, 1932
Henry Snure, 1931
Fred R. DeLappe, 1933

To the President and House of Delegates:

The Committee on Medical Defense in its annual report to the House of Delegates last year briefly outlined the history of both the Medical and Indemnity Defense that had been furnished by the California Medical Association prior to 1924. It also called attention to the present service of Optional Defense, which has been available to interested members since the first of July, 1924. A repetition of the inauguration and discontinuance of Legal and Indemnity Defense will not be given here, but a few words regarding the value of the present defense, the Committee feels should be made.

It desires to call particular attention to the long and splendid record of work done by the legal representatives of the Association in their defense of our members, as shown by the annual reports of the Legal Department.

The possibility of suit to one who has constantly given his best service to his patients and who has never experienced the distressing unpleasantness of suit, seems a very remote and intangible contingency. It is the member who has had a former experience, who sets a true valuation on the paltry outlay that gives to him this splendid knowledge, and who year after year gladly renews his membership in Society's defense. The resultant peace of mind and the sense of protection, both of professional standing in the community and of hard earned savings, are strong arguments for the support of this service.

It is the recommendation of the Committee on Medical Defense that members more generally throughout the State secure this Optional Defense, and, thereby, the expert services of the Association's specially trained legal representatives and their staff of assistants.

Respectfully submitted,
Geo. G. Reinle, *Chairman.*

COMMITTEE ON MEMBERSHIP AND ORGANIZATION

Executive Group

LeRoy Brooks, Chairman, 1931
Harlan Shoemaker, 1932
Jesse W. Barnes, 1933
The Secretary, Ex-officio

Advisory Group

Fred B. Clarke, Long Beach
Claude V. Thompson, Lodi
Fred Gundrum, Sacramento
Lewis F. Morrison, San Francisco
J. P. Nuttall, Santa Monica
H. V. Brown, Glendale
H. T. Brooks, Alhambra
Dewey R. Powell, Stockton
John H. Breyer, Pasadena

To the President and House of Delegates:

Your standing committee on Membership and Organization beg to submit the following as their annual report:

According to the directions of an official notification received from the Council, an Advisory Committee consisting of the following nine members has been appointed this year:

Dr. Dewey Powell, Stockton; Dr. Fred B. Clarke, Long Beach; Dr. C. V. Thompson, Lodi; Dr. Lewis Francis Morrison, San Francisco; Dr. John P. Nuttall, Santa Monica; Dr. Herbert T. Brooks, Alhambra; Dr. Fred F. Gundrum, Sacramento; Dr. Harry V. Brown, Glendale; Dr. John H. Breyer, Pasadena.

With the help of this Advisory Committee and the different committees of the local societies throughout the State appointed last year by the presidents of the various local societies, the membership of the California Medical Association is 4,882 as compared with 4,841 for 1930.

In addition to the change in the number of members it is hoped that the united efforts of all these committees has resulted in a more coöperative organization in the different societies, as well as in the State organization.

Your Committee feels that by having local cooperative medical organizations, a powerful political influence might be brought to bear upon representatives to the State Legislature at Sacramento. With the present political tendencies in regard to social medicine such influence may at any time be of great value to the profession as well as to the State at large.

The Placement Bureau of the California Medical Association has found openings for fifteen physicians and twenty stenographers, nurses and technicians during the past year (April 1, 1930 to March 1, 1931). This later work was done entirely by Dr. Emma Pope.

The Committee wishes at this time to thank all those who have coöperated in this movement, especially is it indebted to the local committees and the Advisory Members of this Standing Committee—and last, but not least, to the coöperation of Dr. Pope and her office force.

Respectfully submitted,
LeRoy Brooks, *Chairman.*

COMMITTEE ON HISTORY AND OBITUARIES

Executive Group

Charles D. Ball, Chairman, 1932
Percy T. Phillips, 1931
Emmet Rixford, 1933
The Secretary, Ex-officio
The Editor, Ex-officio

Advisory Group

William LeMoyne Wills, San Marino
Frank D. Bullard, Los Angeles
George L. Cole, Los Angeles.
Wm. H. Geistweit, San Diego
Robert F. Rooney, Auburn
John C. King, Pasadena

To the President and House of Delegates:

1. The Committee on History and Obituaries begs leave to report that during the twelve months ending January 1, 1931, in which year the registered membership was 4,933, there were 76 deaths. (Authority California and Western Medicine.)

During this period there were very few obituaries. Would it not be well for a very short obituary to accompany each death notice?

Deaths of members of the California Medical Association reported from January 1, 1930 to January 1, 1931, are as given below:

	County Society
George Lake Blanchard	Los Angeles
William Ford Blake	San Francisco
Edward A. Crokat	San Diego
Ora Baxter Dunham	Imperial
Clara Eugenia Finney	Stanislaus
Samuel J. Gardner	San Francisco
John Sanford Gwaltney	Los Angeles
Gavin Shearer Hebert	Los Angeles
Arthur Swain Hickox	Alameda
Samuel J. Hunkin	San Francisco
John Alfred Jackson	Los Angeles

Robert L. Jump	Alameda
Percy Francis Kearney	Alameda
William L. Knedler	San Diego
Charles Herbert Lowell	Monterey
Archibald Lyle MacLeish	Los Angeles
James Lawrence Maupin	Fresno
John Andrew Montgomery	Fresno
Constante Alexander Nahl	Sacramento
George Weston Ogden	Napa
Jesse Cameron Pickett	San Francisco
Robert Pollock	San Diego
Hogan J. Ring	Humboldt
George Clyde Ruble	Orange
Louis X. Ryan	San Francisco
H. Guy Schooling	Los Angeles
John Schmitz	Los Angeles
Nathalie A. Selling	San Francisco
George Austin Shank	Orange
Nicholas J. Shields	San Luis Obispo
Charles Augustus Short	Santa Clara
Charles Elliott Thompson	Los Angeles
Jesse Mercer Threadgill	Los Angeles
Lucy Maria Field Wanzer	San Francisco
Peter Kemp Watters	Santa Cruz
Philip Henry Weber	Alameda
William L. Whittington	Placer
Charles Zerfing	Los Angeles

2. The attention of the members of the California Medical Association is called to the historical data printed in the 1931 directory of the California Medical Association, pages xxxii to xlix inclusive.

It is hoped each year to print in the directory more or less information of similar import. Your committee feels that such information will add to the interest of a somewhat dry but important publication of the California Medical Association and at the same time be a source of inspiration to county medical units to work up the history of their own society.

3. A letter prepared by your Committee was sent out through the central office of the Association to all county medical units of the California Medical Association requesting that local committees on medical history be appointed. It is gratifying to know that a number of county units have already given this matter their attention and action. In due time a list of such will be printed in the California Medical Association column of CALIFORNIA AND WESTERN MEDICINE in the hope that component county societies which have not taken up this matter will give same their attention.

The Council of the California Medical Association has gone on record as having the Association secure, if possible, as complete a file of medical publications which have been printed in the past in the State of California as was possible. Your Committee has carried on correspondence with the medical libraries of the State and with book sellers and it is hoped to secure such a list of publications. Such a list of publications contain practically the history of the activities of members of the medical profession of California and such it will be possible in good time to get much of the material that could go into the compilation of a creditable history of the California Medical Association. Your Committee is keeping constantly in mind the desirability of making every effort to collect such an historical memorabilia.*

Respectfully submitted,

Chas. D. Ball, *Chairman.*

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* In response to a plea that every county medical society appoint a committee to collect and compile historical data, the following committees have been appointed. County societies which have not yet taken such action are requested to do so.

County Society Committees on History and Obituaries

Alameda—

Frank R. Makinson, chairman, Oakland.
E. E. Brinckerhoff, Oakland.
H. W. Harding, Oakland.
Claire Rasor, Oakland.
Harold G. Trimble, Oakland.

Contra Costa—

L. St. John Hely, chairman, Richmond.
P. C. Campbell, Richmond.
V. S. Abbott, Richmond.
C. R. Black, Richmond.

Mendocino—

L. K. Van Allen, Ukiah

Riverside—

W. W. Roblee, chairman, Riverside.
W. B. Payton, Riverside.
C. S. Dickson, Riverside.

San Mateo—

Walter C. Chidester, chairman, San Mateo.
Archie L. Offield, Burlingame.
Norman Morrison, San Mateo.

Tuolumne—

Homer DeWitt Rose, chairman, Sonora.
George C. Wrigley, Sonora.
J. Paul Sweeney, Tuolumne.

San Bernardino—

Frank Pritchard, chairman, Colton.
W. H. Craig, Upland.
John N. Baylis, San Bernardino.

San Francisco—

Henry Harris, chairman, San Francisco.
George D. Lyman, San Francisco.
Douglass W. Montgomery, San Francisco.

San Joaquin—

R. T. McGurk, chairman, Stockton.
J. F. Doughty, Tracy.
J. V. Craviotto, Stockton.

Tulare—

Austin Miller, chairman, Porterville.
G. Furness, Visalia.
A. Preston, Visalia.

Yolo-Colusa-Glenn—

D. Schuyler Pulford, chairman, Woodland.
Frank Lawson, Willows.
Charles A. Poage, Colusa.

COMMITTEE ON PUBLICATIONS

Executive Group

Percy T. Magan, chairman, 1931
Morton R. Gibbons, 1932 — The Secretary, Ex-officio
Frederick F. Gundrum, 1933 — The Editor, Ex-officio

To the President and House of Delegates:

Your Committee begs leave to submit the following report:

The publications which the California Medical Association prints are: (1) its official journal, CALIFORNIA AND WESTERN MEDICINE; (2) its *Annual Directory;* (3) its *Pre-Convention Bulletin;* and (4) *The Annual Convention Program.*

1. CALIFORNIA AND WESTERN AND MEDICINE, which is printed monthly, is the official publication of the California Medical Association and at the same time the accredited representative of the Nevada and Utah State Medical Associations.

From all that we can learn this state medical journal compares most favorably with other official journals of state medical societies throughout the United States both as regards typographical and editorial make-up. There is much more to be said in its praise than can be said in legitimate criticism.

2. *The Annual Directory* fulfills a real need. Your Publication Committee notes with interest that considerable space is given in the first part of the book to a presentation of certain historical and other matter that can be of service to the members of the California Medical Association. Your Committee is in accord with the effort to use a certain number of pages for such purpose because of the valuable services which can be rendered to members thereby.

3. At last year's Del Monte Convention the first *Pre-Convention Bulletin* was printed. This received most hearty endorsement from the members of the House of Delegates which is a splendid indication of the need which it has filled.

4. *The Annual Session Program.* Your Committee commends the efforts of the Scientific Program Committee to secure a synopsis of every paper from each member taking part in the scientific program. It believes that secretaries of sections who fail to secure such synopses from the essayists in their section do themselves, their section and the Association an in-

justice in not obtaining such digests. Such give members a better opportunity to determine whether they wish to hear certain papers. Essayists who fail to send in synopses for the official program likewise seem to be somewhat delinquent in their responsibilities in these matters.

We would urge every section to likewise print the complete list of its officers and to indicate in each year's program the date and time that the business sessions and the election of officers will be held. This would be a great convenience to members in attendance at different sections and would no doubt stimulate interest in the business affairs of each section.

In Conclusion: In conclusion your Committee would suggest that all publications of the California Medical Association which have covers, namely the CALIFORNIA AND WESTERN MEDICINE, the *Annual Directory* and the *Pre-Convention Bulletin* be printed in the same cover color as the cover of the CALIFORNIA AND WESTERN MEDICINE.

If the expense of such a cover for the annual program be not very great the annual session program might also have a somewhat similar cover.

Respectfully submitted,

Percy T. Magan, *Chairman.*

COMMITTEE ON PUBLIC POLICY AND LEGISLATION

Executive Group

Junius B. Harris, Chairman, 1932
The President, Lyell Kinney, Ex-officio
William Duffield, 1931
The President-elect, Junius Harris, Ex-officio
Joseph Catton, 1933

Advisory Group

(All county society committees on Public Policy and Legislation.)

To the President and House of Delegates:

Inasmuch as the Legislature is still in session and most of the bills are still pending awaiting the approval of the Budget, the Committee on Public Policy and Legislation will defer its full report until the annual session.*

Respectfully submitted,

Junius B. Harris, *Chairman.*

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* County societies which have appointed and sent in the names of their local committees on public policy and legislation to the State Association Secretary are as follows:

County Society Committees on Public Policy and Legislation

Alameda—
O. D. Hamlin, Chairman, Oakland
Mark L. Emerson, Oakland.
Guy Liliencrantz, Oakland.

Contra Costa—
U. S. Abbott, chairman, Richmond.
E. W. Merrithew, Martinez.
S. N. Wiel, Rodeo.

Fresno—
T. F. Madden, chairman, Fresno.
C. A. James, Fresno.
N. J. Dau, Fresno.
D. H. Trowbridge, Fresno.

Kern—
G. C. Sabichi, chairman, Bakersfield.
P. J. Cuneo, Bakersfield.
Joseph K. Smith, Bakersfield.

Lassen-Plumas—
G. S. Martin, chairman, Susanville.
G. R. Fortson, Susanville.
W. M. Edwards, Portola.

Napa—
W. L. Blodgett, chairman, Calistoga.
D. H. Murray, Napa.
G. I. Dawson, Napa.

Orange—
H. A. Johnston, chairman, Anaheim.
Emerald J. Steen, Fullerton.
James C. Crawford, Orange.

Placer—
Robert Eveleth, chairman, Roseville.
E. E. Myers, Roseville.
J. A. Russell, Auburn.

San Bernardino—
G. G. Moseley, chairman, Redlands.
C. F. Whitmer, Colton.
F. E. Clough, San Bernardino.

San Diego—
W. O. Weiskotten, chairman, San Diego.
J. D. Bobbitt, San Diego.
William W. Belford, San Diego.

San Francisco—
Irving Ingber, San Francisco.
Joseph Catton, San Francisco.

San Joaquin—
John J. Sippy, chairman, Stockton.
Dewey R. Powell, Stockton.
R. T. McGurk, Stockton.

San Mateo—
Otis Allen Sharpe, chairman, Burlingame.
Howard Mawdsley, San Mateo.
Olin Holmes, San Mateo.

Santa Clara—
James B. Bullitt, chairman, San Jose.
Thos. Blanchard, San Jose.
Thos. Storey, Santa Clara.

Stanislaus—
Fred R. DeLappe, chairman, Modesto.
J. A. Cooper, Modesto.
J. K. Morris, Jr., Modesto.

Tulare—
Addison W. Preston, chairman, Visalia.
Frank Kohn, Tulare.
Elma R. Zumwalt, Tulare.

Tuolumne—
J. Paul Sweeney, Tuolumne.
Paul Noetling, Standard.
Homer Dewitt Rose, Sonora.

Ventura—
J. A. King, chairman, Ojai.
Louis Wm. Achenbach, Ventura.
Francis R. Hendricks, Ventura.

COMMITTEE ON SCIENTIFIC WORK

Executive Group

Emma W. Pope, Secretary California Medical Association, Chairman, Ex-officio
Lemuel P. Adams, 1931
Karl Schaupp, 1932
Verne R. Mason (Secretary Section on Medicine, 1931), (ex-officio)
Francis M. Pottenger, 1933
Clarence E. Rees (Secretary Section on Surgery, 1931), (ex-officio)

To the President and House of Delegates:

In the early history of the California Medical Association the State Journal was under the control of a selected group called the Publicity Committee, the members of which prepared for publication papers presented before either the state meeting or a county society meeting. Until 1916 this Committee had no authority to refuse publication of any paper which had been so presented. The growth of the Association and resultant multiplicity of papers read, caused the Council on March 4, 1916, to rule that papers read before county societies need not necessarily be accepted by the Publication Committee.

The present Scientific Program Committee is an outgrowth of the Publicity Committee but without the special duty of editing or accepting papers. The establishment of Scientific Sections with specified officers has transferred much of the work of preparation of the Scientific Program to these section officers. The choice of inviting speakers has become a duty of the Arrangements Committee. The chief duty of the Scientific Program Committee now is to sit in conference with both the Arrangements Committee and Section Officers at a yearly meeting held early in February to consider the programs already planned, to reassemble accepted papers into symposia, to combine section programs dealing with allied topics, and to locate section meetings wherein the special knowledge of invited guests will prove most helpful in discussion.

Section officers change yearly. Each newly elected secretary enters his office with no past experience, but possibly with greater enthusiasm by reason of that fact. Three members of the Scientific Program Committee are elected for three years, one only being elected at an annual session; two are chairmen of the Sections on Medicine and Surgery and the Society Secretary sits as an ex-officio officer. These members of longer experience bring to the meeting knowledge of errors formerly made and of rulings for the betterment of the programs. A few of the rulings which have been made by the Scientific Program Committee may be of interest to incoming officers and to members who are planning to submit articles for an annual session.

With the exception of General Medicine and General Surgery, each section should hold two meetings and as the maximum number of papers at any one meeting is six, no section should accept more than twelve papers. Few sections are so limited in number that with fairness to other specialists any one member may address his section each year. The ruling of the Scientific Program Committee has therefore been made that where material is sufficient, other things being equal, choice shall be given the member whose name did not appear on the program of the previous year.

The second ruling, that no member may address more than one section at an annual session is without doubt, a just ruling.

Decision was also reached that one member only of a group, associated financially, should present a paper at any annual session.

That the growth of the Association from 2,602 in 1916 to almost 5,000 in 1930, is responsible for these limitations goes without saying. From 120 to 150 papers are presented before each annual session of the California Medical Association. To publish all in California and Western Medicine and also the papers read before the Nevada and Utah Societies, would make acceptance of other materials by the editors impossible.

While papers so presented are the property of the California Medical Association, permission is frequently made for publication in specialized journals of papers too technical in character for the average reader of a State journal. The ruling made by the Committee in 1916 that all papers presented need not be published still holds.

For the guidance and help of the yearly elected Secretary, a folio containing the names of former section officers, for section porgrams, and minutes of previous meetings, come to him from his predecessor in office.

Section officers and the Scientific Program Committee must at times decide against acceptance of papers they would like to take. This is not always an easy or a pleasant task. Sympathetic understanding of the members, especially of those who are unable to secure place on any annual program, would do much to lighten their burden.

The present program is the result of very earnest effort and months of work by all who have had the arrangement of the sixtieth annual program.

Clinics at the two teaching universities have this year replaced the customary morning golf programs on both Tuesday and Wednesday.

It is hoped that the program as prepared will meet with your approval.

The Association has been particularly favored in securing speakers to discuss problems of interest to all general practitioners—Doctor Oliver on Nephritis; Doctor Aycock on Poliomyelitis; Dr. E. T. Bell on Nephritis and Nephrosis; Dr. Gilray P. Blair on Correction of Losses and Deformities of the External Nose Including Those Associated with Harelip, and Dr. Ralph Waters on Circulatory Changes During Spinal Anesthesia. Albert Mathieu will address the Section on Gynecology.

Respectfully submitted,

Emma W. Pope, *Chairman.*

COMMITTEE ON MEDICAL ECONOMICS

Executive Group

John H. Graves, Chairman, 1932
Joseph M. King, 1931
Ruggles A. Cushman, 1933

Advisory Group

John H. Breyer, Pasadena
Harvey G. McNeil, Los Angeles
William B. Wright, Jr. Los Angeles
Walter B. Coffey, San Francisco
Rodney Yoell, San Francisco
Fred B. Clarke, Long Beach
Daniel Crosby, Oakland
Jesse W. Barnes, Stockton
Fred R. DeLappe, Modesto
Ferdinand Stabel, Redding
Warden T. Barr, Fresno
Morton R. Gibbons, San Francisco
Rexwald Brown, Santa Barbara

To the President and the House of Delegates:

The Committee on Medical Economics offers the following for its report for the past year:

The Committee has received and answered many communications from members of the California Medical Association and carried on a considerable correspondence with various committees, foundations, etc., on problems pertaining to such activities.

A number of plans for rendering more efficient medical service to the people have been presented along with suggestions for further improvement in existing methods for prevention of disease and maintenance of health.

The Committee always has for study several plans for health insurance—voluntary, compulsory, state-controlled, etc.

The plan suggested by Dr. W. B. Coffey, which would have the California Medical Association act as an insurance carrier, with medical and surgical service rendered by members of this Association, is still being investigated.

To maintain professional standards and at the same time lower the cost of sickness for those on whom the burden is the heaviest appears to be the aim of most of the plans presented.

The Committee has seen fit to add to its subcommittee members from every county Society* that would accept such service.

This has resulted in a greater interest and better understanding of problems by the entire membership of the Association.

Addresses have been made by members of the Committee to various professional and civic associations, and it is hoped that this will continue.

Respectfully submitted,

John H. Graves, *Chairman.*

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* County Societies which have appointed local committees on medical economics are listed below.

County Society Committees on Medical Economics

Fresno—
Axcel E. Anderson, chairman, Fresno.
John D. Morgan Jr., Fresno.
Edwin R. Scarboro, San Joaquin.

Lassen-Plumas—
Dan Coll, chairman, Susanville.
Fred J. Davis, Westwood.
Clarence I. Burnett, Susanville.

Napa—
M. M. Booth, St. Helena.

San Francisco—
John H. Graves, chairman, San Francisco.
Herbert S. Thomson, San Francisco.
Rodney A. Yoell, San Francisco.

San Bernardino—
A. T. Gage, chairman, Redlands.
E. H. Risely, Loma Linda.
C. W. Moots, Mentone.

Santa Barbara—
Rexwald Brown, Santa Barbara.

Tulare—
I. Max Lipson, chairman, Visalia.
Walter W. Tourtillott, Porterville.
Samuel S. Ginsberg, Visalia.

Ventura—
W. S. Clark, Ventura.

REPORTS OF SPECIAL COMMITTEES

SPECIAL COMMITTEE ON ARRANGEMENTS

Executive Group

T. Henshaw Kelly (Chairman)
Arthur L. Bloomfield (General Meeting Program and Invited Guests)
Howard C. Naffziger (Clinics)
Daniel W. Sooy (General Arrangements)
F. T. Sheehy (Golf)
The Secretary, Ex-officio

To the President and House of Delegates:

The Committee on Arrangements cannot make any report now upon the expenses attached to the 1931 Annual Session because bills will not be received until after the session.

The annual session will be a more accurate study of the work of the Committee than any wordy statement by the Committee itself.

Respectfully submitted,
T. Henshaw Kelly, *Chairman.*

SPECIAL COMMITTEE ON CLINICAL AND RESEARCH PRIZES

Executive Group

George Dock, Chairman, 1933
Eugene S. Kilgore, 1931 Emmet Rixford, 1932

To the President and House of Delegates:

Your special Committee on Research and Clinical Prizes will make its report orally.

At this time it can only repeat the request formerly made, that more interest be taken in these prizes. If such prizes were offered by many of the eastern state medical associations, we feel certain that there would be a very considerable interest taken therein. All members are requested to aid by urging younger members especially to enter these competitions.

Respectfully submitted,
George Dock, *Chairman.*

SPECIAL COMMITTEE ON THE "CALIFORNIA MEDICAL PRACTICE ACT" AND ON A PROPOSED "QUALIFYING CERTIFICATE (SO-CALLED BASIC SCIENCE) LAW"

George H. Kress, General Chairman

Bay Region Group

Morton R. Gibbons, Group Chairman
Oliver D. Hamlin
Emma W. Pope
Walter B. Coffey
Joseph Catton
Langley Porter
William Ophüls
Hartley Peart

Los Angeles Group

Percy T. Magan, Group Chairman
Lyell C. Kinney
William Duffield
William Cutter
William Molony

At Large Group

Junius Harris, Group Chairman
Percy Phillips
Charles Pinkham
Frederick Gundrum

To the President and House of Delegates:

In last year's "Pre-Convention Bulletin" comment was made on some proposed amendments to the present California Medical Practice Act, and also on some phases of a proposed "Qualifying Certificate" (so-called Basic Science) Act. Following the last annual session of the California Medical Association reports were submitted and it was decided that an initiative measure for a proposed "Qualifying Certificate" (Basic Science) law was for the time being out of the question, because of the lack of adequate time for campaign preparation before the 1930 fall state elections and also because of the extra cost involved in a short campaign.

I. The Present Medical Practice Act

As regard the present California Medical Practice Act, the Council decided to endorse the proposition for an amendment that would require every recent graduate applicant for a physician's and surgeon's license to have a year of internship as well as four years of acceptable professional training before becoming eligible for such license. Such an amendment was prepared and submitted as Senate Bill 463 (Williams) in the present legislature but went down to defeat in its first committee because of the firm and decided opposition of representatives of the osteopathic societies and colleges, who contended it would practically close the doors of the osteopathic schools of California.

Members of the California Medical Association may ask why an amendment to the nonsectarian or Medical Practice Act providing for an elevation of standards of education for nonsectarian practitioners should be of such interest to members of a cultist group such as the osteopaths. The answer is simple. When, through an initiative law submitted to the people and voted through in 1923, the osteopaths secured for themselves an examining board over and beyond the control of the legislature, they incorporated in the said initiative act certain "tie-ins" on the California Medical Practice Act. In that way, they could amend their standards through legislative enactment, while the legislature could not really menace their board. The unfortunate part of this usurpation or nesting relationship as regards nonsectarian standards lies in this, that now this cultist group blocks any attempt on the part of the nonsectarian practitioners to raise the standards for nonsectarian graduates, because it might affect and elevate osteopathic standards to the same level.

It would therefore seem desirable for the regular profession to consider whether or not an initiative act was not desirable as a protection for its own board and its own standards. If so, definite instructions should be given the Council by this 1931 House of Delegates, to study and prepare such an initiative medical practice act so that the same could be submitted to the people of California in the fall of 1932. If the people of California were willing by a majority of over one hundred thousand votes to legalize osteopathic and chiropractic initiative boards of examiners, it would seem reasonable to suppose that they would be also willing to let regular or nonsectarian medicine have such an examining board so that adequate standards for the protection of the public health might be the better maintained.

The excerpts printed in the 1931 California Medical Association directory, page xxxiii, shed some light on the first or 1876 Medical Practice Act of California. In subsequent years the act was so amended that the governor of California made his appointments of examiners from lists of nominees elected and submitted by the Medical Society of the State of California. That method provided a very definite "tie-in" to organized medicine of California. As a means of eliminating lay political influence from having a part in the selection of this important examining board in which members of the California Medical Association should be interested, that method of selection is again worthy of most serious consideration.

To summarize, a new medical practice act incorporating the best and tested elements of our present Medical Practice Act, and incorporating provisions for a more intimate relationship in the selection of the members of the board, all enacted, not by an act of the legislature, but through an initiative submitted to and voted upon by the electors of California, would certainly seem to be pertinent at this time, and at least worthy of intense study and further report with definite plans of procedure so that the proposed law and plan of procedure could be carefully considered and acted upon by the House of Delegates at next year's annual session of the California Medical Association.

II. On a Proposed "Qualifying Certificate" (So-called "Basic Science") Act

As stated in the 1930 "Pre-Convention Bulletin," such a law would hardly be worth striving for unless through an initiative. It is possible that the dental and pharmaceutical professions might be willing to support an effort to secure a law that would make necessary the possession of knowledge as represented by a four-year high school education plus work of one year's collegiate standard in the subjects of English, Physics, Chemistry and Biology, before any applicant for a license to practice the professions of medicine, dentistry and pharmacy could take his final examination.

The states in the Union which have inaugurated such so-called basic science laws have noted a real reduction in the number of cultist licentiates in their states. In no State of the Union does cultist medicine flourish more luxuriantly when legally recognized than in California. Witness, for instance, chiropractic in California which, coming into legal existence in California in 1923, has already granted almost three thousand licentiates the right to practice in this state while in the same time period the total number of licentiates from all the medical colleges of the United States who have secured physician's and surgeon's licenses has hardly exceeded five hundred.

It is the belief of the undersigned chairman of this California Medical Association Special Committee that a Qualifying Certificate or so-called Basic Science Law, to be secured by initiative, and if possible by coöperation with the dental and pharmaceutical professions of California, would be a measure, which if secured, would go far in preventing the entry and legalization of additional cultist boards to those of osteopathy and chiropractic which are already existent. That such efforts for additional cultist boards will continue to be made is evidenced by the proposed Assembly Bill 1281 (Jeperson and Bliss) introduced into the present legislature and by which, if enacted, the cult of "naturopathy" would have been given legal recognition. That group having failed in the present legislature, gives no assurance that its members may not be more successful in a future session of our legislatures. A "Qualifying Certificate" ("basic science") initiative act, passed by the electors of the State, and applicable to all groups of the healing art, would go far in preventing such possibilities, with their inherent menaces to the public health interests of the State.

The above suggestions are submitted to the present House of Delegates because if any action is contemplated through initiative procedures, then the instructions to the California Medical Association Council to study such proposed measures should be given at this time, in order that expense may be held down and the best possible results secured.

Respectfully submitted,
George H. Kress, *General Chairman.*

REPORT OF PRESIDENT KINNEY ON TOUR OF SOME NORTHERN COUNTY MEDICAL SOCIETIES*

To the President and House of Delegates:

At the January meeting of the Council the President was requested to visit some of the county medical societies in the northern portion of the state. Secretary Pope arranged an itinerary selecting central points and requested the members of surrounding counties to attend joint meetings. In this way it has been possible to contact most of the county societies in Northern California. The following is a short calendar sketch of the trip through the North with some of the impressions gathered therefrom:

March 2, Oakland.—At the invitation of Doctor Hamlin, Doctor Harris and Doctor Kinney were guests at the annual dinner of the Merritt Hospital staff. The speaker was Mr. Pilsbury, Regional Director of the United States Employees Compensation Fund and his subject was "Social Health Insurance." Mr. Pilsbury outlined a policy of compulsory health insurance as a means of financing the cost of illness, distinguishing forcefully between the financial problem and the dangerous bureaucratic control of medical practice. The reception of this address showed clearly that he leaders in the communities of Alameda County are not only conversant with the problems but willing to make such adjustments as are required by public needs.

March 3, San Francisco.—This was the regular meeting night of this society. The scientific program was a symposium on influenza. The San Mateo Society was invited and well represented. Dr. Kinney was given a place on the first part of the program and spoke on "Medical Leadership."

March 4, Sacramento.—The four adjacent counties were well represented at this special meeting, some of the members coming more than one hundred miles. There were ninety-five physicians present. Dr. Kinney spoke along the same lines as at San Francisco. Dr. Harris spoke of the bills pending before the legislature. Mr. Hartley Peart, general counsel of the California Medical Association, discussed the legal problems of medicine. He described the organization and purpose of the trustees of the California Medical Association and explained the reasons for the transfer of funds from the Indemnity Defense Funds. Also he discussed problems of medical defense, expert testimony, and the practice of medicine by lay corporations. He detailed the activities of county hospitals throughout the state and explained their legal status. Dr. Peers addressed the members as their district councilor.

The following day Dr. Harris arranged for Dr. Kinney and Mr. Peart to meet the leaders of the Senate and Assemblymen and the Comptroller of the University in relationship to our legislative program.

March 5, Auburn.—The surrounding counties were well represented, many members coming from long distances and six members coming from the Sacramento Society. This was a special meeting with an attendance of forty-five, followed by a lunch. Dr. Kinney spoke on the activities of the California Medical Association. Mr. Peart spoke along the lines of his Sacramento talk. Councilor Peers spoke of the Medical Society of the State of California. There was considerable discussion and much interest in the optional defense.

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* At the request of the editor, President Kinney has submitted a brief account of a recent visit to some of the northern county medical societies of California. The Council of the California Medical Association voted that this report be printed in the Appendix of the Pre-Convention Bulletin, since the matters therein discussed had a somewhat near relationship to medical organization and might be worthy of consideration by the 1931 House of Delegates. As was stated in the April California and Western Medicine editorial comment on this series of visits by President Kinney and other officers, it is hoped that this is only the beginning of an unending sequence of such tours by California Medical Association presidents, which cannot but result in greater understanding, development and strength among members of the California Medical Association.

March 6, Chico.—At 6:30 dinner was followed by a conference in the dining room of the Oaks Hotel. There were ten of the eighteen members of the Butte County Society and one physician from Tehama County present. The discussion followed the same general lines as that at Auburn. Members showed a marked interest and presented many questions for discussion. Councilor Peers made this his official visit, urging optional defense and extending to the society his help and coöperation. Dr. and Mrs. Peers, who had been our hosts since our arrival at Colfax the previous evening, left us at Chico.

Eureka, Sunday, March 8.—A special meeting was called at 3 p. m. and practically the entire membership of Humboldt County attended. The weather prevented many coming from adjacent counties. This was Dr. Rogers' official visit and he followed Dr. Kinney and Mr. Peart with a plea for closer coöperation with the California Medical Association, offering his personal assistance to the local members. Many questions were asked concerning narcotic regulations and the members suggested that they would appreciate letters or bulletins from the state office concerning official regulations and also their opportunities and duties of the California Medical Association. A dinner followed this meeting.

March 9, Oakland.—This was a noon dinner meeting at the Hotel Oakland, with about one hundred members present. Dr. Kinney presented a talk on "The Functions of the County Medical Society." Councilor Hamlin spoke on the need for organized and concerted effort by the society. The request for a California Medical Association bulletin was repeated here.

March 10, Modesto.—The four counties in this region were well represented at this meeting, members coming from as far north as Stockton. About fifty were present. Dr. Kinney spoke on the relation of the smaller societies to the California Medical Association, the activities of the California Medical Association, and the public relations of county societies. Councilor De Lappe developed the thought of the county medical societies' leading in public opinion and public health work. Each of the presidents of the four county societies took part in this discussion. Dr. Kinney was the guest of Councilor and Mrs. De Lappe during his stay in Modesto.

March 11, San Jose.—This was a special meeting at the San Jose Country Club. About ninety members were present, representing the districts from Oakland to Santa Cruz. Legal Counsel Peart was with us again, and his message on legal affairs was very greatly appreciated. (President Kinney desires to express his appreciation at this point for the courtesies extended him in this tour by Mrs. Peart and her sister, Mrs. Pier, who acted as his official chauffeurs on this entire trip.) Councilor Phillips gave a brief greeting to the societies of his district. Dr. Kinney spoke on legislation and the public relations of the county medical societies. Dr. Shephard, former councilor, and Dr. Phillips are arousing an unusual interest in this district on medical economic problems and the members are becoming well acquainted with current public needs.

March 12, Sonoma.—A special dinner meeting was held at the Mission Inn, and the attendance included physicians from the four adjacent counties. More than fifty doctors were present. Dr. Harris spoke on the bills before the legislature which are of special interest to medicine. Dr. Kinney discussed work of the component county medical societies. Short talks were made by Councilor Rogers and by the presidents of each of the four county medical societies. Councilor and Mrs. Rogers were our hosts at this time and also on the stop-over at Petaluma on the Eureka trip.

March 13, Fresno.—A special meeting was held at the University Sequoia Club with about forty-six physicians present. Dr. De Lappe, the councilor, could not come on account of other official business. Dr. Kinney spoke of the relation of the county medical societies to the California Medical Association and the need for leadership and compact organization in public relations. A lively discussion followed concerning state medicine, the relation of county medical societies to health departments, and the Woman's Auxiliary which they are about to form.

Comment:

It was a genuine pleasure for the president to attend these eleven meetings, contacting most of the societies in the northern half of the state. The uniformly cordial welcome and the interesting reception was most gratifying. The members of the Council supported him in this effort, and he wishes to thank them for their help and hospitality. Most sincere thanks and appreciation are extended to Mr. Hartley Peart, the general counsel of the California Medical Association, for accompanying the president and sharing in five of these meetings.

Impressions:

1. The new provision of the constitution and by-laws directing the State Association president to visit various sections of the state seems a wise policy. Many of the smaller societies feel remote and detached from the State Association. Contacts with the state officers will give them a feeling of unity of purpose and interest, and will promote coöperation between the county societies and the California Medical Association.

2. The California Medical Association can well be proud of the high caliber of its members, even in the remotest counties. Throughout the state, members are alive to modern social and economic trends and are willing to adjust their policies and practices to modern needs.

3. In many of the smaller counties close contact obtains between the members and the Senator or Assemblyman from the district. Such contacts can be very helpful to the Public Policy Committee.

4. Many of the members would appreciate a concise bulletin or letter at intervals informing them of official decisions or regulations and of policies and plans of the California Medical Association. The obvious answer that such statements appear in the JOURNAL does not obviate the necessity for personal contact and concise forceful statement.

5. Throughout the state, members and county societies are looking to the California Medical Association for forceful leadership and definite plans of action in their public relations. There is a rather general feeling that state medicine is imminent, and they are relying on the Council and officers of the California Medical Association to prevent or control it.

Respectfully submitted,

Lyell C. Kinney, *President.*

COUNCIL MINUTES

Minutes of the 197th Meeting of the Council of the California Medical Association

Held in the offices of the Association, Room 2004, 450 Sutter Street, San Francisco, Saturday, January 31, 1931, at 10 a. m.

Present.—Doctors Kinney, Harris, Pallette, Duffield, DeLappe, Phillips, Hamlin, Peers, Ewer, Rogers, Hunter, Cushman, Kress, Kelly, Pope, and General Counsel Peart.

Absent.—Doctors Arnold, Moseley, Coffey, and Catton.

1. **Call to Order.**—The meeting was called to order by the chairman, Oliver D. Hamlin.

2. **Minutes of the Council.**—The chairman stated that the minutes of the 196th meeting of the Council had been mailed to all councilors and if there were no objections he would entertain a motion for their approval without further reading.

Action by the Council.—On motion of Duffield, seconded by Rogers, and unanimously carried, the following resolution was adopted:

Resolved, That the minutes of the 196th meeting of the Council, as mailed to all councilors, be approved.

3. **Minutes of the Executive Committee.**—The chairman stated that the minutes of the 123rd, 124th, and 125th meetings of the Executive Committee had been mailed to all councilors, and if there were no objections he would entertain a motion for their approval without further reading.

Action by the Council.—On motion of Kinney, seconded by Hunter, and unanimously carried, the following resolution was adopted:

Resolved, That the minutes of the 123rd, 124th, and 125th meetings of the Executive Committee, as mailed to all councilors, be approved. (See page 454 for digests.)

4. **Committee on Associated Societies and Technical Groups.**—The secretary stated that a new member should be appointed on the Committee on Associated Societies and Technical Groups to fill the vacancy caused by the death of Doctor Bowman.

Action by the Council.—On motion of Duffield, seconded by Pallette, and unanimously carried, the following resolution was adopted:

Resolved, That R. Manning Clarke of Los Angeles be appointed to fill the unexpired term of William Bowman on the Committee on Associated Societies and Technical Groups, term expiring 1931.

It was pointed out that William Bowman had been chairman of the committee.

Action by the Council.—On motion of Kress, seconded by Kinney, and unanimously carried, the following resolution was adopted:

Resolved, That R. Manning Clarke of Los Angeles be appointed acting chairman until such time as the committee meets and elects a chairman.

5. **Committee on Medical Defense.**—The secretary stated that there was a vacancy on the Committee on Medical Defense caused by the death of J. L. Maupin, Sr.

Action by the Council.—On motion of Cushman, seconded by Duffield, and unanimously carried, the following resolution was adopted:

Resolved, That Henry Snure of Los Angeles be appointed to fill the unexpired term of J. L. Maupin, Sr., on the Committee on Medical Defense, term expiring 1931.

6. **Program Committee.**—The secretary stated that during the last two years the program luncheon at the annual meeting had been dispensed with and that a meeting had been held prior to the annual meeting at which the annual program was formulated, the expense of which had been authorized yearly by the Council.

Action by the Council.—On motion of Duffield, seconded by Hunter, and unanimously carried, the following resolution was adopted:

Resolved, That the railroad and transportation expenses of section secretaries, or in the absence of the secretary, the chairman of the section, and the members of the Program Committee, and the expense of the program luncheon be paid by the California Medical Association for the program meeting to be held at the Fairmont Hotel, San Francisco, February 8, 1931.

7. **Public Health Exhibit.**—Letter from Fred B. Clarke, Chairman of the Committee on Health and Public Instruction, was read by the secretary. It was pointed out that the collection of data for such a public health exhibit as planned by the Association must of necessity be in the central office of the Association. It was stated that it would be advisable to have several groups of men who would be willing to handle the exhibit, give lectures, etc., in different sections of the state where such fairs are to be held. Doctor Peers stated the State Fair attachés were anxious to have a public health exhibit since such exhibits were very popular with the public, and that transportation of material to and from such fairs was given gratis by the railroad companies.

Action by the Council.—On motion of Kelly, seconded by Kress, and unanimously carried, the following resolution was adopted:

Resolved, That the Committee on Health and Public Instruction be instructed to proceed with the collection of data for the public health exhibit and that its members be advised concerning the actual appropriation for the exhibit and instructed to report at the annual session.

8. **Annual Budget.**—The proposed budget of income and expenses as prepared by the Executive Committee for the year 1932 was submitted by Doctor Kelly for consideration. Doctor Kelly stated that the auditor of the books of the Association had stated that funds designated in the budget for certain purposes, *i. e.,* radio broadcasting, health exhibit, etc., must appear in the general reserve funds of the Association and be included in the cash reserve unless the resolution appropriating such funds definitely stated that such funds are to be set aside and allocated to a special fund for the said purpose only. It was pointed out that it was, therefore, important to set a time limit on all such allocations.

The General Counsel suggested that the problem might be handled by passing a resolution stating that any allocation of funds in the budget which is approved by the House of Delegates shall be construed as an authorization to the designated committee or individual to expend such funds, with the approval of the Council; and that any unexpended funds at the end of the fiscal year shall revert to the general funds of the Association.

Action by the Council.—On motion duly made and seconded, the following resolution was adopted:

Resolved, That the unexpended funds that have heretofore been allocated for the Public Health Exhibit, radio broadcasting, etc., be returned to the general funds of the Association as of the end of the fiscal year in which allocated.

9. **Arrangements Committee.**—T. Henshaw Kelly, Chairman of the Arrangements Committee, reported on invited guests for the next annual session. Doctor Kelly stated that acceptances had been received from William L. Aycock, Harvard, who will speak on poliomyelitis; Dr. Jean Oliver, pathologist; and Dr. Ralph Waters of the Wisconsin General Hospital; that Dr. Roland T. Woodyat of the Rush Medical School had tentatively accepted; and that Doctors Edward Starr Judd, Chevalier Jackson, Dean DeWitt Lewis, and McKim Marriott had been unable to accept the invitations of the Association. Dr. Benjamin P. Watson of New York had been invited, but has as yet not replied. Doctor Kelly stated that it was the plan of the committee to have two speakers available for each general meeting.

10. **Medical Economics Section.**—Discussion was had of the formation of a Medical Economics Section as authorized by the House of Delegates. It was pointed out that if this was organized as a typical section, the meeting would be held during the time allotted for section meetings and that many of the doctors who had a special interest in medical economics would be unable to attend. Doctor Kelly stated that it might be well to set aside a general meeting for a medical economics program. It was felt that a committee should be appointed to handle this program and that Doctor Graves should be made chairman. Doctor Ruddock was also mentioned as one of the members of the committee. The Council felt that it would be wise to devote the time to conditions in California instead of bringing in outside speakers for this year's meeting.

Action by the Council.—On motion of Kress, duly seconded, the following resolution was adopted:

Resolved, That formation of a Section on Medical Economics be delayed for this year and that the medical economics problems be presented this year at a general meeting and that talks be given on California problems.

It was felt that Thursday morning should be designated for the Medical Economics meeting.

11. **White House Conference on Child Health and Protection.**—The attention of the Council was called to the fact that Doctors Kinney, Harris, Peers, and Pope had been invited to attend the meetings of the Section on Medical Service of the White House Conference on Child Health and Protection at Washington, D. C., February 19 to 21, 1931. Discussion was had of the advisability of a representative of the Association attending the meeting. It was felt that if medical interests were to be safeguarded in such gatherings, representative doctors should attend when possible.

Action by the Council.—On motion duly made and seconded the following resolution was adopted:

Resolved, That President Kinney be designated as the official representative of the California Medical Association at the Child Health Conference at Washington, and that his transportation expenses be paid by the Association.

Doctor Kinney was instructed to advise the Association of other expense incurred.

12. **Retired Membership.**—Applications for retired membership in the California Medical Association, as presented by various county societies, were discussed.

Action by the Council.—On motion of Pallette, seconded by Rogers, the following resolution was adopted:

Resolved, That Roscoe Albert Whiffen, San Jose, Santa Clara County; Everett A. MacDonald, Redlands, San Bernardino County; Edward Spence DePuy, Oakland, Alameda County; Albert B. McKee, San Francisco; and M. Wylie Ward, Davis, Yolo County, be granted retired membership in the California Medical Association.

13. **Councilor Visits.**—Doctor DeLappe stated that he felt that some fixed policy of publicity should be adopted by the Council which would outline a program for councilor visits.

Action by the Council.—On motion of Kelly, seconded by Kress, and unanimously carried, the following resolution was adopted:

Resolved, That the major topics for discussion at councilor visits be made a special order of business at the organization meeting of the Council at each annual meeting and that the Executive Committee bring in a detailed report that will furnish a basis for action.

14. **Presidential Tour.**—The desirability of the president of the Association touring the state and visiting as many county societies as possible was discussed. It was stated that where possible it would be well for the district councilor to accompany the president at various meetings.

Action by the Council.—On motion of Kress, seconded by DeLappe, the following resolution was adopted:

Resolved, That the Council view with approbation any itinerary which President Kinney can arrange to cover as large a number of the county units as possible; and that the expense of such tour be paid by the Association.

15. **Birth Control.**—Discussion was had of the proposed change in federal legislation regarding the dissemination of knowledge on birth control.

Action by the Council.—On motion of Kelly, seconded by Ewer, and unanimously carried, the following resolution was adopted.

Resolved, That the matter of proposed legislation on birth control be tabled.

16. **George Washington Bicentennial.**—Letter from the United States Commission for the celebration of the two hundredth anniversary of the birth of George Washington was presented by the secretary.

Action by the Council.—On motion of Kelly, seconded by Peers, and unanimously carried, the following resolution was adopted:

Resolved, That the California Medical Association coöperate in the celebration of the two hundredth anniversary of the birth of George Washington.

17. **Medical Officers Reserve Corps.**—The secretary presented resolutions passed by the Utah and Minnesota Medical Associations regarding the present army regulation for medical reserve officers which requires that all officers shall, during each five years' commission period, put in two hundred hours of military work in camp, correspondence school, or similar military activity or become ineligible for renewal of commission.

Action by the Council.—On motion of Kinney, seconded by Duffield, and unanimously carried, the following resolution was adopted:

Resolved, That the Council recommend the passage by the House of Delegates of a similar resolution to those passed by the Utah and Minnesota Medical Associations.

18. **Constitution and By-Laws for the Woman's Auxiliary.**—Dr. Henry Rogers, Chairman of the Special Committee appointed by the Executive Committee to work out a tentative Constitution and By-Laws for the State Woman's Auxiliary, presented the draft prepared by his committee.

Action by the Council.—On motion of Rogers, seconded by Peers, and unanimously carried, the following resolution was adopted:

Resolved, That the Constitution and By-Laws, as presented to the Council, be forwarded to the officers of the Woman's Auxiliary with the request that they review same thoroughly and present any suggestions or changes to the Council at its second meeting at the next annual session at San Francisco.

19. **Resolution From Orange County Society.**—Letter from the Orange County Society, together with attached resolution passed by the Orange County Society regarding the House of Delegates resolution and the Hewlett Club correspondence, was presented. It was pointed out that the Orange County Society had mailed copies of the resolution to all county medical societies. Minutes of the January 6, 1931, meeting of the San Bernardino County Society which contained the resolution of the Orange County Society and the action thereon by the San Bernardino County Society were then read.

It was pointed out that the resolution passed by the Orange County Society was not included in the regular minutes of the society but had been received as a separate communication. The resolution of the San Bernardino County Society upholding the action of the Council left the matter of distribution of the resolution to all county societies to the discretion of the secretary of the California Medical Association.

Action by the Council.—On motion of Pallette, duly seconded, and unanimously carried the following resolution was adopted:

Resolved, That receipt of the Orange County correspondence be acknowledged and it be placed on file and that the Orange County Society be so notified.

Action by the Council.—On motion of Pallette, duly seconded and unanimously carried, the following resolution was adopted:

Resolved, That the receipt of the San Bernardino County resolution be acknowledged and placed on file and that the San Bernardino County Society be so notified; and further that the secretary write the San Bernardino County Society stating that the Council appreciates its understanding of the Council's position.

20. **Letter of E. C. Fishbaugh.**—Letter from E. C. Fishbaugh, referred to the Council by the Executive Committee, was presented.

Action by the Council.—On motion of Duffield, seconded by Hunter, the following resolution was adopted:

Resolved, That letter from E. C. Fishbaugh be received and placed on file.

21. **Report of Committee on Hospitals, Dispensaries, and Clinics.**—Report of the Committee on Hospitals, Dispensaries, and Clinics for the Year 1930, together with the definition of the word "clinic" and Standards for Clinics adopted by the Los Angeles Council of Social Agencies, was presented. Discussion was then had of the proposed legislation on clinics. It was felt that Doctor Ruddock's report should be referred to the Committee on Public Policy and Legislation.

On motion of Kress, seconded by Kinney, and unanimously carried, the following resolution was adopted:

Resolved, That the chairman of the Committee on Public Policy and Legislation, in coöperation with Doctor Ruddock and such other members as he desires to call upon, be requested to prepare such a bill for introduction along these lines.

It was stated that the bill should be presented primarily for its educational value and no stress should be used in pressing its passage.

22. **Santa Barbara County Supervisors' Medical Service Plan.**—Dr. Lyell C. Kinney, President, who was appointed by the Executive Committee to make a special investigation of the Santa Barbara situation, reported on his investigations and stated that the plan had practically been abandoned. The action of the Santa Barbara Society regarding expulsion from membership of any society member becoming a party to the proposed plan was brought to the attention of the Council.

Action by the Council.—On motion of Kress, seconded by Hunter, and unanimously carried, the following resolution was adopted:

Resolved, That a vote of thanks be tendered President Kinney for the time and effort used in clearing up this situation.

23. **Industrial Accident Clinic.**—Letter from Dr. MacGowan regarding the Industrial Accident Clinic at Washington, D. C., was presented. It was the sense of the Council that the matter be referred to the proper committee, *i. e.,* Committee on Hospitals, Dispensaries, and Clinics.

24. **Medical Service Corporation at Los Angeles.**—Correspondence regarding a new medical service, social, and educational organization in the process of organization at Los Angeles, was discussed.

It was the sense of the Council that the correspondence be referred to Doctor Ruddock with the request that he keep as close touch with the progress and plans of this organization as possible.

25. **Bradstreet Medical Credit Bureau.** — Doctor Kress explained the Medical Credit Bureau to be organized by Bradstreet Company. It was stated that information should be secured and the full details presented to the Executive Committee, who in turn would report to the Council.

Action by the Council.—On motion of Kress, seconded by Peers, and unanimously carried, the following resolution was adopted:

Resolved, That the Medical Credit Bureau of Bradstreets be referred to the Executive Committee and the firm be communicated with to ascertain whether a representative can meet with the Executive Committee at its next meeting.

26. **Medical Service Plan at Ventura.**—The secretary stated that in reply to the request of the Executive Committee for more detailed information on the medical service plan of the big Sisters' Hospital at Ventura, Doctor Shore had written that the plan had been abandoned.

27. **Legislation.**—Doctor Harris, Chairman of the Committee on Public Policy and Legislation, submitted a progress report on legislation, and reported on the membership of committees of the Senate and Assembly to which medical bills would be referred.

Doctor Hunter presented a report on psychopathic legislation which is being studied in the southern part of the state, and stated that the bills had been introduced at the last moment and were in skeleton form. Doctor Hunter asked the permission of the Council to have the Legislative Committee study the bills, which he outlined briefly as follows:

Amend Section 2169—Provision to correct the procedure in commitment to eliminate some of the legal procedure and reduce humiliation to patient and family. (Lunacy Laws.)

Amend Section 2168—By insertion of words "Pending examination and hearing such order may be made relative to the care, custody, or confinement of the alleged insane person as the judge shall see fit." (Lunacy Laws.)

Amend Section 366 of Political Code—To provide that the Director of Institutions shall be a physician.

Amend Section 2185b—Regarding voluntary commitments—To add the words "of any county psychopathic hospital" and provide for the use of existing county psychopathic hospitals. (Lunacy Laws.)

Amend Section 2152—Regarding appointment of medical superintendent at hospitals—Omit the words "The medical superintendent of the homeopathic hospital must be a homeopathic physician, and he must, in other respects, possess the same qualifications as other medical superintendents."

It was also proposed that wherever the word "arrested" appeared that the word "apprehended" be substituted in sections relating to the apprehension and commitment of alleged insane persons.

Action by the Council.—On motion of Hunter, seconded by Kress, it was

Resolved, That the Council commends and approves the proposed changes in these lunacy laws.

Action by the Council.—On motion of Kress, duly seconded, the following resolution was adopted:

Resolved, That Doctor Hunter be requested to formulate a report for publication in the next issue of CALIFORNIA AND WESTERN MEDICINE and that the Association print one thousand reprints for use by Doctor Hunter and his committee.

It was suggested that some of the reprints be sent to Doctor Harris.

Letter from Doctor Catton was presented regarding investigations of psychopathic legislation by Doctor Catton and Doctor Carter as authorized by the Executive Committee.

Letter from Doctor Catton regarding Department of Institutions was presented. It was felt that the rules governing institutions as formulated by Mr. Jensen should be reviewed and amended where necessary. It was felt that the letter should be presented to the Executive Committee for consideration.

Discussion was then had of the appointment of two subcommittees as outlined in Doctor Catton's letter, and on motion of Kress, seconded by Cushman, the following resolution was adopted:

Resolved, That the Chairman of the Committee on Public Policy and Legislation be requested to appoint a subcommittee of three from the north and three from the south as an advisory group of the Committee on Public Policy and Legislation with instructions to tentatively take charge of the matter and report to the Executive Committee.

The names of Doctors Hunter, Cocher, Cushman, and Duffield were suggested as possible members of the southern subgroup.

Doctor Harris stated that he had contacted by telegram with the committees considering the Jones-Cooper bills regarding maternal and child welfare.

Action by the Council.—On motion of Kress, duly seconded, the following resolution was adopted:

Resolved, That the Chairman of the Legislative Committee prepare a digest of this prospective legislation that is of medical interest so that same may be published in California and Western Medicine; that galley proofs be sent to every member of the Council; and that there be sent at the same time a letter giving names of members of the Senate and Assembly from whom copies of the bills may be obtained.

28. **Indemnity Defense Fund.**—The question of cancellation of twenty-two unpaid notes for the Indemnity Defense Fund was discussed and it was decided to postpone action until the conditions under which the notes were received were investigated.

The General Counsel read a proposed letter to be sent to all members of the Indemnity Defense Fund regarding assignment of interest in the funds thereof.

Action by the Council.—On motion of Duffield, seconded by Cushman, and unanimously carried, the following resolution was adopted:

Resolved, That this plan be approved and that the secretary be instructed to send out such letter and an assignment to each Fund member.

29. **Resignation of Councilor-at-Large.**—Dr. George H. Kress, Councilor-at-Large from Los Angeles, submitted his resignation to the Council to take effect immediately.

Action by the Council.—On motion of Kinney, seconded by Pallette, and unanimously carried, the following resolution was adopted:

Resolved, That the resignation of George H. Kress, Councilor-at-Large from Los Angeles, be accepted.

30. **Appointment of Councilor-at-Large.**—Discussion was had as to the appointment of a councilor-at-large to fill the vacancy caused by Doctor Kress' resignation.

Action by the Council.—On motion of Duffield, seconded by Kinney, and unanimously carried, the following resolution was adopted:

Resolved, That William H. Kiger be appointed councilor-at-large for the unexpired term of Doctor Kress, term expiring 1931.

31. **Proposed Amendment to the Constitution.**—Discussion was had of the proposed amendment to the Constitution, submitted by Doctor Day, at the last meeting of the House of Delegates, amending Article X, Section 11.

Action by the Council.—On motion duly made and seconded, the following resolution was adopted:

Resolved, That the General Counsel be requested to report at the next meeting of the Council on the scope and other phases of the amendment.

32. **Date of Council Meeting.**—Discussion was had of the date of the next meeting of the Council, and on motion duly made and seconded, the following resolution was adopted:

Resolved, That the next meeting of the Council be held at the Fairmont, San Francisco, at 8 p. m., Sunday, April 26, 1931.

33. **Adjournment.**—There being no further business the meeting adjourned.

Oliver D. Hamlin, *Chairman.*
Emma W. Pope, *Secretary.*

EXECUTIVE COMMITTEE MINUTES

Digest of the Minutes of the 123rd Meeting of the Executive Committee Held at San Francisco on November 8, 1930

At the 123rd meeting of the Executive Committee, held on November 8, 1930, actions as indicated below were taken on the following items of business:

1. Roll call: Two members absent.

2. Financial reports for the months of September and October 1930 presented and approved.

3. Correspondence regarding birth control referred to Council.

4. Publication of one thousand copies of Articles of Incorporation and By-Laws of the Trustees of the California Medical Association authorized.

5. Letter regarding situation in Santa Barbara schools presented and reply authorized, stating inadvisability of any attempt to control recognition of excuses from physical activity in public schools by duly licensed physicians in State of California.

6. Request from United States Commission for coöperation of the California Medical Association in the celebration of the two hundredth anniversary of birth of George Washington referred to Council with recommendation of approval.

7. Request from Bureau of Legal Medicine and Legislation for active coöperation with federal and state narcotic officers in suppression of abuse of narcotic drugs. Reply authorized that members of California Medical Association are imbued with wisdom of eradication of narcotic abuse and will continue actively in support of controlling laws.

8. Report of general counsel on remuneration for medical testimony, whether such be regarding facts within physicians' knowledge or an expression of expert individual opinion.

9. Filling vacancy on Committee on Associated Societies and Technical Groups caused by death of Dr. W. B. Bowman referred to Council.

10. Letter from Doctor MacGowan read and recommendations approved.

11. Association offices designated as depositary for original copies of Association letters. Method of procedure in handling of Association mail outlined.

12. Authorization given for binding unbound copies of Transaction of California Medical Association now in files.

13. Report by general counsel on medico-legal case.

14. Discussion of group insurance and reference to Council.

15. Presentation of resolution adopted by Medical Board of Los Angeles General Hospital regarding care of mental patients. Executive Committee authorized copies sent to Committee on Hospitals, Dispensaries and Clinics, and Committee on Public Policy and Legislation that remedial measures may be taken up at the January session of the legislature.

16. Presentation of revised Constitution and By-Laws of Woman's Auxiliary. Referred to Committee on Associated Societies and Technical Groups for further study.

17. Decision reached not to hold meeting of Trustees of the California Medical Association in December.

18. Consideration of editorial in *The Journal of the American Medical Association.* Letter authorized to Trustees of the American Medical Association.

19. John H. Graves appointed chairman of subcommittee to Committee on Public Policy and Legislation.

20. Adjournment.

Emma W. Pope, *Secretary.*

Digest of the Minutes of the 124th Meeting of the Executive Committee held at San Francisco on December 13, 1930

At the 124th meeting of the Executive Committee, held on December 13, 1930, actions as indicated below were taken on the following items of business:

1. Roll call: One member absent.

2. Financial statement for month of November 1930 presented and approved.

3. Discussion on annual budget for 1932 postponed until January meeting.

4. Approval of publicity in California and Western Medicine of meeting of tri-state section of American College of Surgeons.

5. Reply of Doctor Woodward to letter on abuse of narcotic drugs referred to Committee on Public Policy and Legislation with request that it keep informed regarding situation. Reply to Doctor Woodward authorized that matters in California were in fairly satisfactory condition.

6. Consideration of health insurance plan contemplated at Ventura. Request for further information.

7. Report by Doctor Kinney that Los Angeles County Woman's Auxiliary had adopted a Constitution and By-Laws. Authorization for seventy-five mimeographed copies.

8. Report on recent decision by Judge Blake of Los Angeles County regarding illegality of corporation to practice medicine.

9. Reply of Doctor West to letter of protest against editorial in *The Journal of the American Medical Association* authorized sent to signers of letter of protest.

10. President Lyell C. Kinney authorized to purchase four collapsible viewing boxes for use at annual sessions.

11. Publicity for Clinical and Research Prize Contest authorized yearly by letter in May and October to all county societies.

12. Proposed letter to members of Indemnity Defense Fund covering assignment of interest in fund presented by general counsel and approved by Executive Committee.

13. Report by chairman of Committee on Public Policy and Legislation, Junius B. Harris, on the following bills: Lien Bill, Medical Library Bill; psychopathic legislation, licensing of clinics, nursing, dental legislation, amendments to Medical Practice Act, National Board of Medical Examiners, drugless practitioners' board, and other legislation of interest to the medical profession.

14. Appointment of subcommittee to Committee on Public Policy and Legislation.

15. Adjournment.

Emma W. Pope, *Secretary.*

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Digest of the Minutes of the 125th Meeting of the Executive Committee held at San Francisco on January 17, 1931

At the 125th meeting of the Executive Committee, held on January 17, 1931, actions as indicated below were taken on the following items of business:

1. Roll call: All members present.

2. Financial statement for month of December presented and approved.

3. Authorization of publication in Medico-Legal department of California and Western Medicine, for information of members, of newspaper clipping regarding suit by individual doctor against members of Spokane County Medical Society, Washington.

4. Optometry situation in California discussed.

5. Discussion of resolution from Orange County Medical Society; referred to Council.

6. Cost of cuts to be borne by California Medical Association set at maximum of $15.

7. Doctor Kinney appointed to inspect County Hospital situation in Santa Barbara. Expenses authorized.

8. Progress report by general counsel on group insurance.

9. Progress report by general counsel on hospital associations. Letter from member regarding violation of professional ethics in filling out of reports required by law.

10. Question raised whether reporting by case number instead of name of patient would not safeguard professional secrecy was discussed. Reply by general counsel authorized.

11. Correspondence re narcotic enforcement.

12. Report by chairman of Committee on Public Policy and Legislation on Senate Bill No. 70; Library Bill; Medical Practice Act; Lien Bill; licensing of clinics; Dental Bill; Drugless Practitioners' Bill; psychopathic cases; Drugs and Devices Act; Sheppard-Towner Act; title M. D.

13. Letter from Dr. E. C. Fishbaugh referred to Council.

14. Section of Orthopedics deemed desirable and Doctor Kinney appointed to assist in formation. General meeting of Section on Medical Economics authorized by House of Delegates. Approved.

15. Matters regarding organization of Woman's Auxiliary considered.

16. Adjournment.

Emma W. Pope, *Secretary.*

COUNCIL MINUTES

Minutes of the 198th Meeting of the Council of the California Medical Association

Held in Room 126, Fairmont Hotel, San Francisco, Sunday, April 26, 1931, at 8 p. m.

Present.—Doctors Kinney, Harris, Pallette, Hamlin, Arnold, Duffield, DeLappe, Phillips, Coffey, Peers, Rogers, Hunter, Cushman, Kiger, Kelly, Ewer, Kress, Pope, and General Counsel Peart.

Absent.—Doctors Moseley and Catton.

1. **Call to Order.**—The meeting was called to order by the chairman, Oliver D. Hamlin.

2. **Order of Business.**—In accordance with constitutional provision, the order of business for the first two meetings of the House of Delegates was submitted to the Council.

Action by the Council.—On motion of Kinney, seconded by Kelly, and unanimously carried, the following resolution was adopted:

Resolved, That the order of business for the first two meetings of the House of Delegates be adopted as published in the official program.

3. **Announcement of Membership of the Credentials Committee.**—Edward M. Pallette, Speaker of the House of Delegates, announced that he had appointed as members of the Credentials Committee, Dr. George G. Reinle, chairman, Oakland; Dr. William H. Kiger, Los Angeles, and Dr. Harry Zaiser, Orange.

4. **Report of the Council.**—The report of the Council as prepared by Dr. O. D. Hamlin, chairman, was submitted to the Council for correction. The report was read paragraph by paragraph and certain changes and additions were suggested. It was stated that the amended report would be considered at the next Council meeting.

Doctor Kelly submitted a budget on the basis of an eight-dollar annual assessment. After discussion, on motion of Ewer, seconded by Peers, the following resolution was adopted:

Resolved, That the recommendation of a two-dollar reduction in dues be adopted.

Doctors Duffield and Rogers voted No.

5. **Report of the Secretary-Treasurer.**—Emma W. Pope, secretary-treasurer, submitted a report for the year 1930. A few minor changes were suggested and the report was approved as amended.

6. **Report of the Auditing Committee.**—Doctor Kelly, chairman of the Auditing Committee, submitted the report of his committee for discussion. It was stated that the report would be submitted to the House of Delegates as amended.

7. **Report of the Board of Trustees of the California Medical Association.**—The report of the Trustees of the California Medical Association was submitted for discussion and the general counsel was instructed to incorporate minor changes suggested by members of the Council.

8. **Amendment to Section 11, Article X, of the Constitution.**—Discussion was had as to the scope of the proposed amendment to the Constitution. General Counsel Peart submitted an opinion on the effect of the amendment if adopted. It was pointed out that the passage of this amendment might make it impossible for the secretary and the editor to serve on committees.

Action by the Council.—On motion of Pallette, seconded by Ewer and unanimously carried, the following resolution was adopted:

Resolved, That Mr. Peart be requested to present his opinion at the meeting of the House of Delegates Monday evening.

9. **Medical Officers' Reserve Corps.**—Discussion was had of the present regulations governing medical officers in the Reserve Corps of the United States Army, and the feasibility of presentation of a resolution similar to those adopted by other state medical societies. It was the sense of the Council that Doctor Kinney be authorized to present a resolution at the first meeting of the House of Delegates.

10. **George Washington Bicentennial.**—Correspondence regarding the celebration of the George Washington Bicentennial was presented. No action taken.

11. **Woman's Auxiliary.**—Letter from Dr. Carl Howson, president of the Los Angeles County Medical Association regarding resolutions on the suggested change in the name of the national Committee on the Costs of Medical Care.

Action by the Council.—On motion of Kress, seconded by Kelly, the following resolution was adopted:

Resolved, That the first paragraph of the above resolution be modified and that the modified resolution be given blanket approval.

12. **Adjournment.**—There being no further business, the meeting adjourned to meet at the same place at 2:30 p. m. Monday, April 27, 1931.

Oliver D. Hamlin, *Chairman.*
Emma W. Pope, *Secretary.*

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Minutes of the 199th Meeting of the Council of the California Medical Association

Held in Room 126, Fairmont Hotel, San Francisco, Monday, April 27, 1931, at 2:30 p. m.

Present.—Doctors Kinney, Harris, Pallette, Hamlin, Arnold, DeLappe, Phillips, Catton, Peers, Rogers, Cushman, Kiger, Kelly, Ewer, Kress, Pope, and General Counsel Peart.

Absent.—Doctors Moseley, Duffield, Coffey, and Hunter.

1. **Call to Order.**—The meeting was called to order by the chairman, Oliver D. Hamlin.

2. **Minutes of the Council.**—The chairman stated that the minutes of the 197th meeting of the Council had been mailed to all members and if there were no objections, they would be approved without further reading.

Action by the Council.—On motion of Kelly, seconded by Kinney, the following resolution was adopted:

Resolved, That the minutes of the 197th meeting of the Council as mailed to all councilors, be approved.

Minutes of the 198th meeting of the Council were then read and amended.

On motion of Kelly, seconded by Harris, the following resolution was adopted:

Resolved, That the minutes of the 198th meeting of the Council be approved as amended.

3. **Minutes of the Executive Committee.**—The chairman stated that the minutes of the 126th and 127th meetings of the Executive Committee had been mailed to all members and if there were no objections he would entertain a motion for their approval without further reading.

Action by the Council.—On motion of Rogers, seconded by Pallette, the following resolution was adopted:

Resolved, That the minutes of the 126th and 127th meetings of the Executive Committee, as mailed to all councilors, be approved. For digests, see page 457.)

4. **Orthopedic Section.**—Doctor Kinney reported on the progress made in the formation of a section on Orthopedics of the California Medical Association, stating that the orthopedic clubs were meeting in Oakland and that they had been asked to send in a request for the formation of such section when their decision had been reached.

5. **County Society Organization.**—Doctor DeLappe, councilor for the fourth district, reported on the possibility of the formation of a county medical society in the Mono-Inyo senatorial district, stating that the distances were so great as to require three days' travel between important centers. Doctor DeLappe stated that some of the doctors in the district were affiliated with the Association through adjoining county societies.

Action by the Council.—On motion of Kress, seconded by Pallette, the following resolution was adopted:

Resolved, That the report be received.

6. **Woman's Auxiliary.**—Doctor Kinney stated that the Woman's Auxiliary was meeting Tuesday and wished to adopt a Constitution and By-Laws at that time.

Action by the Council.—On motion of Peers, seconded by Pallette, the following resolution was adopted:

Resolved, That in order to expedite matters, Doctors Kinney and Rogers and Mr. Peart be appointed a committee to hold a conference with the officers of the Auxiliary, with power to act.

7. **Honorary Membership.**—Letter from the San Francisco County Medical Society requesting that honorary membership be granted Dr. Stanley Stillman, was read.

Action by the Council.—On motion of Kelly, seconded by Phillips, and unanimously carried, the following resolution was adopted:

Resolved, That Stanley Stillman of San Francisco be recommended for honorary membership in the California Medical Association.

8. **Health Foundation of America.**—Letter from the secretary of the Los Angeles County Medical Association regarding newspaper advertisement of the Health Foundation of America, Ltd., was presented. It was felt that this did not come under the advertising laws.

Action by the Council.—After discussion, on motion duly made and seconded, the following resolution was adopted:

Resolved, That the correspondence be referred to the Los Angeles County Medical Society.

9. **Grace Deere Velie Metabolic Clinic.**—Dr. Alfred L. Phillips reported on the Grace Deere Velie Metab-

olic Clinic. Letter from Doctor Kocher and advertisement appearing in the San Jose newspapers were presented and discussed.

Action by the Council.—On motion of Peers, seconded by Cushman, the following resolution was adopted:

Resolved, That the correspondence be referred to Dr. Alfred L. Phillips, councilor of the fifth district.

10. **Membership.**—Membership data and letter from the San Francisco County Medical Society requesting that Dr. Joseph B. Henderson be granted retired membership was presented.

Action by the Council.—On motion of Pallette, seconded by Arnold, and carried, the following resolution was adopted:

Resolved, That Dr. Joseph J. Henderson, Elko, Nevada, member of the San Francisco County Medical Society, be granted retired membership in the California Medical Association.

Membership data and letter from the Santa Clara County Medical Society requesting that Dr. Henry Power of Palo Alto be granted retired membership, was presented.

Action by the Council.—On motion of Pallette, seconded by Cushman, the following resolution was adopted:

Resolved, That Dr. Henry Power, Palo Alto, member of the Santa Clara County Medical Society, be granted retired membership in the California Medical Association.

Membership data and letter from the Alameda County Medical Society requesting that retired membership be granted Dr. J. D. Grissim, Oakland, was presented.

Action by the Council.—On motion of Arnold, seconded by DeLappe, the following resolution was adopted.

Resolved, That Dr. J. D. Grissim, Oakland, member of the Alameda County Medical Society, be granted retired membership in the California Medical Association.

11. **Legislation.**—Dr. Junius B. Harris, chairman of the Legislative Committee, gave a progress report on pending legislation. It was the sense of the Council that the report be accepted.

12. **Financial Statement.**—Financial statement for the month of March, 1931, was presented by the secretary and approved as follows:

Total receipts for March		$ 21,444.80
Total expenses for March		6,036.33
Gain for March		$15,408.47
Gain for January and February		13,919.67
		$ 29,328.14
Cash on hand, January 1, 1931	$97,934.28	
Cash on hand, revolving fund	500.00	
Cash on hand, petty cash	50.00	
Cash on hand, salary fund	1,300.00	99,784.28
Total cash on hand, March 31, 1931		$129,112.42

13. **Advertising in the Journal.**—Correspondence from the Council on Pharmacy and Chemistry of the American Medical Association regarding the publication of the name California and Western Medicine in the *Directory* of the American Medical Association was discussed.

Action by the Council.—On motion of Kelly, duly seconded, the following resolution was adopted:

Resolved, That the Council of the California Medical Association feels that the advertising in California and Western Medicine complies with the requirements of the American Medical Association and it will, therefore, accept whatever listing it is awarded.

14. **Trademark Registering.**—The General Counsel stated that he had applied for forms from the United States Patent Office for the registering of the name California and Western Medicine.

15. **Advertising in the Journal.**—Discussion was had of the acceptance for publication in the Journal of advertising containing fee schedules.

Action by the Council.—On motion of Catton, seconded by Kelly, the following resolution was adopted:

Resolved, That no advertisement be accepted for publication in California and Western Medicine which contains any statement of fee schedule dealing with primary medical service.

16. **Indemnity Defense Fund.**—The secretary stated that the term of William Duffield, trustee of the Indemnity Defense Fund, had expired.

Action by the Council.—On motion of Harris, seconded by Peers, the following resolution was adopted:

Resolved, That William Duffield be elected trustee of the Indemnity Defense Fund for a term of seven years.

17. **Group Policy.**—The General Counsel made a progress report on the proposed group policy for members of the Medical Society of the State of California. Doctor Catton suggested that the General Counsel be instructed to prepare a rider that may be added to insurance policies that would be all inclusive.

18. **American Medical Association Meeting.**—Letter regarding invitations to the American Medical Association for the 1932 session was presented. Discussion was then had of the invitations of the San Francisco and Los Angeles county societies for the meeting of the American Medical Association. No action.

19. **Volstead Act.**—Correspondence and resolution from the Association for the Protection of Constitutional Rights on the Volstead Act was presented.

Action by the Council.—On motion of Kelly, seconded by Peers, the following resolution was adopted:

Resolved, That the question be tabled.

20. **Medical Testimony.**—Dr. Joseph Catton reported on the present procedure in calling medical witnesses to testify as to fact and opinion and suggested that the General Counsel be authorized to take part in the legal action now pending which involves this matter.

Action by the Council.—On motion of Kelly, seconded by Kinney, the following resolution was adopted:

Resolved, That the Council instruct the General Counsel to take such action as he considers necessary in coöperating with other lawyers to protect the rights of physicians.

21. **Adjournment.**—There being no further business before the Council, the meeting adjourned to meet at 2 p. m. Tuesday, April 28, 1931.

Oliver D. Hamlin, *President*
Emma W. Pope, *Secretary.*

EXECUTIVE COMMITTEE MINUTES*

Digest of the Minutes of the 126th Meeting of the Executive Committee Held at San Francisco on February 28, 1931

At the 126th meeting of the Executive Committee held on February 28, 1931, actions as indicated below were taken on the following items of business:

1. Roll call: One member absent.

2. Financial statement for the month of January presented and approved.

3. Request from Doctor Pottenger for sending of official invitation to the American College of Physicians to hold 1932 or 1933 meeting in San Francisco. Reply that President Kinney had extended invitation was authorized.

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* At the 196th meeting of the Council held on September 27, 1930, it was voted to print digests of the minutes of the Executive Committee, said digests to be attached to the minutes of the Council meeting at which the Executive Committee minutes were considered. (See March 1931, "California and Western Medicine," page 201.)

4. Reports of Standing Committees for *Pre-Convention Bulletin* referred to editors.

5. Ruling that exhibitors at annual session must be advertisers in Journal abrogated this year because of financial depression.

6. Purchase of eight time clocks for section meetings at annual session authorized.

7. Publicity in Journal for clinic tour of Europe denied until definite and satisfactory information has been received.

8. Ruling of Council on policy of acceptance of advertising upheld.

9. Conference with State Board of Health relative to establishment of State Bureau of Health Information, by chairman of Committee on Public Policy and Legislation and Executive Committee chairman authorized.

10. Report of the Committee on Public Policy and Legislation on pending bills of interest to the medical profession was had.

11. Legislative work of the Woman's Auxiliary limited by Council to work done through component county medical societies and legislative action of auxiliaries to that passing through and approved by the chairman of the Committee on Public Policy and Legislation.

12. Advertising of Health Foundation of America presented. Action deferred.

13. Letters of comment on editorial regarding Santa Barbara medical plan presented for information.

14. Authorization of necessary expenses of Committee on Public Policy and Legislation.

EMMA W. POPE, *Secretary.*

* * *

Digest of the Minutes of the 127th Meeting of the Executive Committee Held at San Francisco on April 4, 1931

At the 127th meeting of the Executive Committee held on April 4, 1931, actions as indicated below were taken on the following items of business:

1. Roll call: All members present.

2. Financial statement for the month of February, 1931, was presented and approved.

3. Desirability of an organized component county society in every senatorial district was discussed. Doctor DeLappe requested to report at annual session on Sixteenth Senatorial District, comprising Mono-Inyo counties, the only one in which no organized county society exists.

4. Publication in the appendix of the *Pre-Convention Bulletin* of a report by the president, Lyell C. Kinney, on his recent visits to component county medical societies in northern California authorized.

5. Invitation to officers of the component county societies to annual luncheon of county society officers and councilors approved.

6. Discussion of publication of papers in CALIFORNIA AND WESTERN MEDICINE deferred to later hour in day.

7. Report of chairman of Arrangements Committee on entertainment of visiting women at annual meeting.

8. Report on nursing care of policyholders of Metropolitan Life Insurance Company.

9. Correspondence from the American Foundation regarding the World Court protocols was tabled.

10. Request for exhibit space for infant food under investigation by the Council on Pharmacy and Chemistry not granted, pending report by Council.

11. Letter from Council on Pharmacy and Chemistry of the American Medical Association referred to the Council for discussion at annual meeting.

12. General counsel requested to investigate and report on advisability of registering name "California and Western Medicine" in United States Patent Office.

13. Chairman of Arrangements Committee authorized to appoint a publicity committee of which he shall be chairman.

14. Correspondence regarding refund on subscription to the Journal referred to county society.

15. Newspaper advertisement of local clinic submitted to the California Medical Association for discussion of ethics was referred to the component county society.

EMMA W. POPE, *Secretary.*

"Jake" Paralysis.—One of the newest and most erratic of the protean forms of disease to manifest itself is that presumably due to the imbibing of adulterated or otherwise abnormal Jamaica ginger. Throughout the South, Middle West, and even here in New England, there have been a number of cases. In all of them the symptoms are essentially the same, characterized at the onset by paresthesia of the legs, particularly in the lower leg. This change is followed by motorparalysis of the anterior tibial group of muscles, together with a marked degree of ataxia. In severe cases the foot drop is followed by similar changes involving the wrists, as well as the intrinsic muscles of the hand. There is little sensory disturbance, however. Moreover, there is no mental deterioration.[1] The symptomatology thus differs considerably from that of chronic or acute alcoholism.

In spite of the large number of cases we are almost entirely in the dark as to the causative factor of this peculiarly disabling type of peripheral neuritis. Any number of substances have been involved, ranging from supposedly contaminating alkaloids to cresol derivatives. Recently the Prohibition Bureau has announced its chemists discovered the poisonous agent to be orthotricresyl phosphate, used in the lacquer industries.

The illicit mode of distribution of much of the Jamaica ginger, the fact that the victims of this type of poison are apt to utilize their entire supply of liquor, and that their tendency is to destroy rather than to turn over to the authorities any liquor that they have remaining after the disease appears, all put great difficulty in the way of investigation. In some cases where the ginger supposedly giving rise to paralysis has been made available, the laboratory experiments have yielded nothing, experimental animal either being insusceptible to the poison or no poison being present. Usually the symptoms in animals are simply those of acute alcoholism.

In the few cases that have come to autopsy, varying lesions have been reported. Usually there is no significant pathology in the organs, at least that cannot be explained by other present and clearly defined disease processes. In the nervous system there have been described degenerative changes in the peripheral nerves, together with a certain amount of lymphoid infiltration in the cord about the neural canal.[2] However, even these changes are not constant.

One fatal case that the writer had the opportunity of studying showed as the sole lesion at autopsy a marked degree of fatty degeneration of the liver, strongly reminiscent of chloroform or phosphorus poisoning. There were practically no normal liver cells to be found in the section. Unfortunately in this case all of the Jamaica ginger had been drunk by the victim and death occurred before the symptoms of neuritis had developed, so there is not sufficient evidence for comparing this case with those of true Jamaica ginger paralysis.

As yet the course of the disease seems uncertain though the general opinion is that there is a slow but steady amelioration of symptoms over a period of some months and a return to approximately normal function at the end of about a year from the onset of the disease. As would be expected from the nature of the substance drunk, the cases have tended to break out in groups in a given locality, strongly suggesting that only certain lots of the Jamaica ginger contain the unknown toxic substance.—*New England Journal of Medicine,* September 11, 1930.

[1] Burley, B. T. N. E. Jour. Med. 202-1139, 1930.
[2] Turley, L. A. Okla. State Med. Assoc. 23-193, 1930.

STATE MEDICAL ASSOCIATIONS

CALIFORNIA MEDICAL ASSOCIATION*

JUNIUS B. HARRIS	President
JOSEPH M. KING	President-Elect
EMMA W. POPE	Secretary

OFFICIAL NOTICES

Registration at the Fairmont Hotel meeting totaled 1547, the largest attendance at any annual meeting: 1080 members; 337 guests; 130 guest physicians.

The next meeting place will be the Hotel Huntington, Pasadena.

* * *

Report on Annual Golf Tournament.—The recent Golf Tournament, in conjunction with the sixtieth annual session of the California Medical Association, was held on Thursday, April 30, in the afternoon, at the Lake Merced Golf and Country Club. Prior to the tournament, all members of the Northern and Southern California Golf Association were notified via return postcard.

Donations for prizes were received from the following firms:

Hittenberger Surgical Appliance Company	$25.00
The James H. Barry Company, printers	27.50
Rodenbaugh & Ingber, roentgenologists	20.00
Rehfisch & Garland, roentgenologists	20.00
Broemmel's Pharmacy	10.00
Frates & Lovotti, pharmacists	10.00
Doctor Kinney, as retiring president	40.00
Doctor Harris, as president-elect	25.00

Trophies were also received from Sugarman Laboratories, American Surgical Supply Company, Fairmont Hotel, and Haas Candy Company. This made a total of thirteen prizes, with a retail value of about $370.

There were 152 men who played golf, 48 of whom remained for dinner. The winners of the tournament were as follows:

Low gross—H. W. Milo, 82.
Low net—R. W. Langley, 90, 20, 70.
Low gross, Class A—W. A. Powell, 83.
Second low gross, Class A—Frank Sheehy, 85.
Low net, Class A—Joseph McCool, 86, 11, 75.
Low gross, Class B—Curtis Smith, 84.
Second low gross, Class B—W. S. Clark, 87.
Low net, Class B—Kirby Smith, 90, 18, 72.
Low gross, Class C—S. F. Priestly, 95.
Second low gross, Class C—S. F. Speik, 95.
Low net, Class C—E. K. Stratton, 96, 24, 72.
Highest score—C. Leggo, 138.
Mystery prize—Cabot Brown, twelve strokes on twelfth hole.

* * *

Erratum.—Under Official Notices on page 384 of the May issue of California and Western Medicine, Dr. William Duffield of Los Angeles should have been printed as delegate for 1932-1933, whose alternate is Dr. William H. Gilbert of Los Angeles.

COMPONENT COUNTY SOCIETIES

CONTRA COSTA COUNTY

The members of the Contra Costa County Medical Society were entertained at the home of Miss Agnes Driscoll, superintendent of the Richmond Cottage Hospital, at their regular meeting on April 14.

Routine business was transacted. The secretary spoke about a movement which has been started in Richmond to obtain hospital facilities for patients taken care of at the expense of the county. It was stated that the County Hospital was no longer adequate to handle all the applications of charity patients for admission and treatment, and it was felt that if additional funds are to be provided for increasing these facilities that Richmond should be given recognition. Dr. C. R. Blake, health officer of Richmond, and many others, discussed the problem from various angles. It was finally moved and seconded that a committee be appointed to investigate this question. Drs. C. R. Blake and J. W. Bumgarner of Richmond and S. N. Weil of Rodeo were named on the committee.

Dr. W. W. Cross of Oakland presented the scientific paper of the evening. The speaker discussed the kidney conditions resulting from obstruction of the urinary tract and infection in the kidney pelves. The doctor's lecture was illustrated with appropriate lantern slides. An open forum was then conducted during which many questions were asked by the members and answered by Doctor Cross. The president, Dr. W. A. Rowell, presided over a well-attended meeting. Following the scientific program a splendid supper was served by the hostess.

*

The liveliest meeting held by the Contra Costa County Medical Society in recent years took place at the County Hospital, Martinez, on May 12. Following the reading of the minutes of the previous meeting, Doctors R. J. P. Harmon and J. B. Spalding, both of Richmond, were unanimously voted to membership in the society. The correspondence exchanged between the secretary and Senator Will R. Sharkey, in reference to Senate Bill 175, and with Assemblyman R. P. Easley, in reference to Assembly Bill 1281, was read to the members. Both Mr. Sharkey and Mr. Easley acknowledged the attitude of the society toward these bills and defended the interests of the medical profession.

The request of the Contra Costa County Public Health Association for our endorsement in the proposed establishment of free tuberculosis clinics in Richmond, Martinez, and Pittsburg was next brought up by Dr. J. M. McCullough. It was explained that since the county had taken over the administration of Sunshine Camp the funds realized from the sale of stamps, which had heretofore been applied to the maintenance of this camp, were now available for other public health purposes. These clinics would be financed out of this fund and would be limited only to patients referred by the family physician who cannot afford such services elsewhere. After much discussion it was moved and seconded that the society endorse this proposition, with the provision that the control of these clinics be eventually placed under the jurisdiction of the county health department, should their value be proven. This motion was unanimously passed.

The committee, appointed by the chair at a previous meeting to consider the endorsement of hospital facilities for county patients in Richmond and vicinity, submitted its report. The chairman, Dr. C. R. Blake, presented an analysis of the number of patients treated at the County Hospital during the past year. This survey showed that more than a third of the total number of patients handled during this period were admitted from Richmond and vicinity. Other arguments were brought forth by the chairman in support of the committee's recommendation to the society that hospital facilities be provided in Richmond for county cases. A spirited and prolonged discussion followed, in which many arguments were offered both in favor of and against the branching out of the present County Hospital. It was pointed out by the opponents of this measure that improvement of the present facilities in Martinez would satisfy all requirements, and they declared the additional expense of providing such facilities in Richmond to be unwarranted. The supporters of this question stressed the necessity of providing hospital facilities at least for serious emergency cases and other cases where the cost of transportation exceeds that of hospitalization. The subsidizing of beds in one of the local hospitals was offered as a possible solution. Finally, after much argumentation, a resolution was offered as follows:

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* For a complete list of general officers, of standing committees, of section officers, and of executive officers of the component county societies, see index reference on the front cover, under Miscellany.

The Contra Costa County Medical Society urges the Board of Supervisors to investigate the advisability of establishing some form of hospital facilities for county patients in Richmond and vicinity. This motion was passed by a narrow margin. It was moved and seconded that the supervisors of Richmond and district be invited to confer with the members of the society regarding this hospital question at its next regular meeting, in June.

This closed the business session.

Dr. Stanley Mentzer of San Francisco presented a statistical study of gall-bladder disease. The classification and etiology of various types of gall-bladder conditions were presented in a clear and convincing manner and well illustrated by lantern slides. Doctor Mentzer's study was based upon a large number of autopsies as well as numerous pathological specimens, and showed the results of much research and practical experience. The treatment of these various conditions was also discussed, emphasis being laid upon a new technique in the operative treatment of these cases. It was unfortunate that the lateness of the hour prevented the speaker from elaborating further on this subject. The report of Dr. U. S. Abbott, delegate of the society to the state convention, was postponed until the next meeting. Dr. W. A. Rowell presided over the largest attendance of recent years.

Members present were: Doctors Bard, Merrithew, Sweetzer, Weil, Leech, McCullough, Rowell, Vestal, Abbott, J. W. Bumgarner, J. B. Spalding, Harmon, Clara Spalding, Keser, Carpenter, Blake, Neufeld, and Fraser.

Visitors present were: Doctors Mentzer of San Francisco; Wise, Marks, and Kearns of Pittsburg; Coates, Edmeads, and Morken of Martinez; Burke of Oakland; and Mrs. Merry of Richmond.

Following the meeting a buffet supper was served by the County Hospital personnel, under the direction of Miss Rogue.

L. H. Fraser, *Secretary.*

NAPA COUNTY

The regular monthly meeting of the Napa County Medical Society was held Wednesday, May 6, at the Napa State Hospital through the courtesy of Dr. T. H. Stice, medical superintendent. A well-appointed, bounteous turkey dinner was provided and thoroughly enjoyed by those present. Doctor Stice proved himself to be a most gracious and affable host.

The business meeting was opened by the president, Dr. R. S. Northrop.

After reading and approval of the minutes, the report of Dr. M. M. Booth, delegate to the state medical meeting, was received and approved. Doctors Johnson, Murray, and Northrop also briefly reported their attendance at the meeting.

The speaker of the evening, Dr. A. C. Reed, was next introduced. Doctor Reed is professor of tropical medicine in the University of California, and has traveled extensively in the Orient. His subject, "A Medical Trip Through the Orient," was illustrated with lantern slides, and proved to be an intensely interesting talk with especial reference to sanitation in the Orient as it pertains to tropical diseases. Doctor Reed's broad knowledge of his subject, his easy, clear, concise presentation contributed to an evening long to be remembered by those present.

Members present were: Doctors H. V. Baker, W. L. Blodgett, M. M. Booth, C. H. Bulson, A. E. Chappell, I. E. Charlesworth, H. R. Coleman, G. I. Dawson, E. F. Donnelley, C. A. Gregory, C. A. Johnson, A. H. McLish, A. K. McGrath, D. W. Murray, C. E. Nelson, R. S. Northrop, R. E. Poole, John Rogers, John Robertson, L. Welti, and G. J. Wood.

Visitors present were: Dr. E. C. Dickson of Stanford University School of Medicine; Dr. Bull, orthopedist of San Francisco; Dr. John Green of Vallejo; Dr. S. Z. Peoples and Dr. Henry Rogers of Petaluma; Dr. Shortridge, dentist, Sonoma; Doctors J. M. Scanland, A. E. Kiser, F. J. Colligan, and R. F. Rood, intern, of Imola; and Mrs. A. Parks, superintendent Victory Hospital, Napa.

Members of the Woman's Auxiliary were present during Doctor Reed's talk.

C. A. Johnson, *Secretary.*

SAN BERNARDINO COUNTY

The regular meeting of the San Bernardino County Medical Society was held at Loma Linda on May 5.

Dinner was served at 7 p. m., about sixty members and guests being present. The meeting was called to order at 8:10 o'clock by the president, Dr. Howard Hill, and the minutes of the previous meeting were read and approved.

The program of the evening, consisting of the following papers, was then given:

"Physiotherapy in the Treatment of Surgical Cases," by Dr. George Thomason of Los Angeles, and "Experimental and Clinical Use of Diathermy," by Dr. Fred Moor of Loma Linda. Discussion was opened by Dr. Charles Curtiss of Redlands.

Doctor Hill then announced that nominations from the floor for officers for the coming year were in order, but as none were made, the nominations as made by the Board of Councilors at their last meeting remained the same: George Landon, president; Fred Moor, first vice-president; A. L. Weber, second vice-president; E. J. Eytinge, secretary-treasurer. Delegates—Philip Savage, Delbert Williams, and D. C. Mock. Alternates—Fred Moor, K. L. Dole, and C. L. Emmons.

E. J. Eytinge, *Secretary.*

SAN JOAQUIN COUNTY

The stated meeting of the San Joaquin County Medical Society was held Thursday evening, April 2, at 8:30 o'clock in the Medico-Dental clubrooms at 242 North Sutter Street. The occasion was the second joint meeting with the members of the dental society. Dr. G. H. Rohrbacker presided. Dr. A. L. Greenberg, president of the dental society introduced Hermann Becks, M. D., D. D. S., of the George Williams, Hooper Foundation for Medical Research, University of California. Doctor Becks read a very scientific paper on the subject, "Bone Pathology from the Standpoint of Oral Diagnosis." The address was illustrated by about fifty lantern slides. The full paper is to appear in the *Pacific Dental Gazette* this summer.

At the close of the meeting refreshments were served.

C. A. Broaddus, *Secretary.*

SANTA BARBARA COUNTY

The regular meeting of the Santa Barbara County Medical Society was held at the Bissell Auditorium of the Cottage Hospital on May 11.

The speaker of the evening was Dr. Charles C. Lauritsen, Ph. D., Norman Bridge Laboratory of Physics, Pasadena, who gave a most interesting and instructive talk on "Sixty Hundred Thousand Volts X-Rays," illustrated by lantern slides.

The discussion was then opened by Dr. Seeley G. Mudd of Pasadena, followed by Dr. Albert Soiland of Los Angeles.

The society then went into executive session and on account of the lateness of the hour it was moved, seconded and carried, that the reading of the minutes of the previous meeting be dispensed with.

The secretary gave a report regarding running a classified advertisement for the Santa Barbara County Medical Society in the telephone book. No action was taken.

The advertising scheme in the morning press was then brought up and after discussion it was moved by Doctor Brown, seconded by Doctor Henderson, that the society go on record as disapproving of this advertising scheme.

Doctor Freidell suggested that the members of the County Medical Society give various articles to the newspaper regarding current subjects pertaining to preventive medicine and have these articles signed as coming from the Santa Barbara County Medical Society.

The president then appointed the members of the society who are on the County Welfare Board to take charge of this activity.

Doctor Koefod then inquired about the scarlet fever epidemic and wondered if there was any way in which the medical society, as a society, could be of service to the health department in curbing the epidemic. After discussion by various members it was moved, seconded and carried, that Doctors Roome and Means meet with the Board of Health, a member of the School Board, and a member of the City Council to see if some concerted action could be taken for the benefit of the community.

There being no further business the meeting adjourned until the second Monday in September.

William H. Eaton, *Secretary.*

SANTA CLARA COUNTY

At the regular monthly meeting which occurred on April 15, the society was the guest of the staff of the San Jose Hospital. The meeting was called to order by the president, Dr. C. M. Burchfiel. Forty-seven members were present.

The application of Dr. Helen Brenton Pryor for membership in the society was read and referred to the Admission Committee.

The matter of standing orders governing the Metropolitan health nurses was opened for discussion and, with minor changes, it was moved and carried that a schedule of orders for first-call duty similar to that now effective in Los Angeles County be indorsed by our society.

The secretary reported on the recent poll of membership with reference to the advisability of the county employing an autopsy surgeon, the vote being 127 affirmative and 27 negative.

The question of examination of preschool children was presented for discussion by Dr. Lucas Empey, chairman of the committee appointed to work out some plan mutually agreeable to the profession and to the Parent-Teacher Association. After several expressions of opinion, the president instructed that the matter be held over for further study, and that for the current year the plan operative in past years be continued.

Inasmuch as one of our members, Dr. Frank Hoover, has recently been called by death, it was moved and carried that the president appoint a committee to draft a resolution of condolence to the decedent's family. Similar resolution was to be mailed to Dr. J. I. Beattie in connection with the recent death of his mother.

A communication was read from the department of pathology of the University of California Medical School requesting our approval or disapproval of the founding of a state diagnostic laboratory. The subject was briefly discussed by Dr. Doxey Wilson, but no official action was taken by the society.

There being no further business to transact, the meeting was turned over to Dr. Charles P. Durney, chairman of the program for the evening, which consisted of a symposium on tuberculosis. Dr. Durney presented a highly commendable paper, covering in general the development of our present knowledge of tuberculosis and stressing the importance of more painstaking study of our patients in order that the presence of the disease may be detected in its very early stages.

Dr. Charles L. Ianne presented, in a very thorough manner, a survey of statistics relative to the value and interpretation of the Pirquet, Mantoux, and percutaneous tuberculin tests.

Following the exhibition of interesting x-ray films from various types of pulmonary tuberculosis, and a discussion by Dr. F. Proescher on the subject of immunity, the meeting adjourned.

Lucas W. Empey, *Assistant Secretary.*

SONOMA COUNTY

The regular meeting of the Sonoma County Medical Society was held on May 14 in Sebastopol at the Chamber of Commerce building. Members of the Woman's Auxiliary were present at the dinner, following which they adjourned to the home of Mrs. Chester Marsh and enjoyed several games of bridge.

Members present included Doctors Baldwin, Peoples, Spear, Konttas, Yates, Marsh, Haskell, Patterson, Quarry, Shipley, Reiss, Lewis, and A. C. Anderson. The guests included Dr. Clifford Sweet and Dr. L. R. Jacobus, both of Oakland.

Following the dinner, Doctor Sweet was introduced by the secretary, President Bowles being absent. Doctor Sweet spoke on the proper examination of children, stressing especially the differences between the child and the adult. He emphasized the necessity of frequent thorough examinations, stating that pathological changes take place in children very rapidly. The procedure of routine examination was demonstrated on two children, secured for this purpose by Doctor Marsh. The address was very practical and appealed strongly to all present.

The business meeting was then called to order by Doctor Reiss. It was moved, seconded and carried, that Dr. Elizabeth M. Yates be granted retired membership and that her application be sent to the state society for action. Ways and means of increasing the attendance at monthly meetings was discussed and several valuable suggestions made.

T. Hubert Reiss, *Secretary.*

TULARE COUNTY

The annual joint meeting of the Tulare County Medical Society and the Bar Association was held in Visalia on April 12. Dinner was served at 7 p. m. The meeting was called to order at 8 p. m., and Dr. H. G. Campbell, president, introduced Dr. Edward H. Williams of Los Angeles, the speaker of the evening, who chose for his address the subject, "Clinical Criminology."

Insanity as a defense in homicide cases was discussed from different angles as well as the presentation of endocrinologic function of the development of physical and, particularly, mental and psychological abnormalities, causative factors in criminal tendencies.

There were fifty-two members present at the meeting.

Discussion by members of the Bar followed the address. A unanimous vote of appreciation was extended to Doctor Williams for the instructive address.

S. S. Ginsburg, *Secretary.*

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VENTURA COUNTY

The regular monthly meeting of the Ventura County Medical Society was held Tuesday, April 14, at the Ventura County Clinic Building. The meeting was called to order by President Wright at 8 p. m.

The minutes of the previous meeting were read and approved.

Members present were: Doctors King, Wright, Bardill, Hendricks, Felberbaum, Jones, Welch, Shore, Homer, Coffey, Mosher, Smolt, D. G. Clark, W. S. Clark, Little, Bianchi, Achenbach, Armitstead. Doctors Johnson, Hunt, and Means were guests.

Doctor Jesberg gave a very instructive lecture on "Bronchoscopy," with special reference to foreign bodies in the respiratory tract. Discussion followed the presentation of the paper.

Communications were read.

Business meeting followed, and Doctor Coffey moved that Dr. W. S. Clark be allowed $30 to attend the state medical meeting. Doctor Homer made an amendment to the motion, to allow $8 a day for each day of the meeting, plus one day to go and one day to come from the meeting. The amended motion was carried. There followed the presentation of the new county health arrangement by Mr. Thille, after which Doctor Coffey presented the recommendations of the committee on the matter, to adopt the report as given by Mr. Thille, seconded by Doctor King. Vote was: affirmative, 2; negative, 13. Doctor Homer presented a motion to endorse any suitable plan to unify the health service of the county under a full-time health officer, but that supervision remain in control of the supervisors. The motion was seconded by Doctor King and was carried unanimously.

R. B. Armitstead, *Secretary.*

CHANGES IN MEMBERSHIP

New Members

Kern County—Edward L. Sudlow.

Los Angeles County—

Donald T. Babcock
Albert Murton Bond
Walter R. Fieseler
James P. Gillis
Herbert L. Herscher
Verne C. Hunt
John R. Jimerson
Alfred Arvo Kosky
Clark Hays Lauder
Charles Harold Lewis
Herry O. Lovell
Douglas David McKinnon
Moses Marion Nielson
Clarence Morley Sellery
Ellwood Leon Shultz
George Albert Snyder
John Stewart Stephens
Isador Arthur Wallach
R. Leslie Ward
George Wade Wilson

Orange County—Roy Alfred Cummings, Charles Emmet Saulsberry.

Sacramento County—Joseph S. Woolford.

San Bernardino County—Harry C. Nelson.

San Diego County—Philip K. Allen, Alexander Ayer Higgs, James A. May, Robert S. Smylie, Harry M. Wegeforth.

San Francisco County—LeRoy C. Abbott, Jean-Louis E. Brindamour, Salvator Joseph Guardino.

San Luis Obispo County—George K. Dunklee.

Santa Barbara County—Lyman A. Cavanaugh, Joseph A. d'Alessio.

Resignations

From San Francisco County—Einer V. Blak, Alma S. Pennington, and Fletcher S. Pyle.

Transfers

Francis F. Malone, from Imperial to Los Angeles County.

Fred S. Modern, from San Bernardino to Los Angeles County.

John W. Newton, from San Joaquin to Los Angeles County.

Deaths

Anderson, Bennett C. Died March 14, 1931, age 85 years. Graduate of Missouri Medical College, St. Louis, 1881. Licensed in California, 1901. Doctor Anderson was formerly an affiliate member of the San Bernardino County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

Engel, Charles Paul. Died at Colton, April 29, 1931, age 42 years. Graduate of Rush Medical College, Chicago, 1916. Licensed in California, 1917. Doctor Engel was a member of the San Bernardino County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

Fuller, Winford LeRoy. Died at Manila, April 12, 1931, age 52 years. Graduate of St. Louis University School of Medicine, Missouri, 1904. Licensed in California, 1916. Doctor Fuller was a member of the Los Angeles County Medical Association, the California Medical Association, and the American Medical Association.

Green, Jacob Samuel. Died at Oakland, April 20, 1931, age 54 years. Graduate of Cooper Medical College, San Francisco, 1898. Licensed in California, 1898. Doctor Green was a member of the Alameda County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

Snyder, James Roe. Died at Sacramento, April 19, 1921, age 43 years. Graduate of Syracuse University College of Medicine, New York, 1912. Licensed in California, 1913. Doctor Snyder was a member of the Sacramento Society for Medical Improvement, the California Medical Association, and a Fellow of the American Medical Association.

Winn, Albert. Died March 20, 1931, age 71 years. Graduate of Columbia University College of Physicians and Surgeons, New York, 1884. Licensed in California, 1903. Doctor Winn was an honorary member of the Los Angeles County Medical Association, formerly a member of the California Medical Association, and a Fellow of the American Medical Association.

THE WOMAN'S AUXILIARY OF THE CALIFORNIA MEDICAL ASSOCIATION[*]

The Woman's Auxiliary—Its Opportunities and Limitations [†]

By Lyell C. Kinney, M. D.

San Diego

First, permit me to state that it is most gratifying to see such a large representation at your second annual session. In the past two years the Woman's Auxiliary has obtained a firm foothold in California and is well on the way to become a large and powerful organization. The past two years of preliminary work in the state and county units has been well done. I am firmly convinced of the need for and the opportunity of the Woman's Auxiliary and I have great faith in its future.

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[*] As county auxiliaries to the Woman's Auxiliary of the California Medical Association are formed, the names of officers should be forwarded to the state secretary-treasurer, Mrs. Dexter R. Ball, 2419 Bonnie Brae Street, Santa Ana, and to the California Medical Association office, Room 2004, 450 Sutter Street, San Francisco. Brief reports of county auxiliary meetings will be welcomed for publication in this column.

[†] Excerpts from address to the Woman's Auxiliary of the California Medical Association by Lyell C. Kinney, M. D., President of the California Medical Association, at the Woman's Auxiliary luncheon, San Francisco, April 28, 1931.

The medical profession has come to realize that one of its most important duties at the present time lies in the field of its public relations. It is imperative that the medical profession take the people into their confidence and continually educate the public in the facts of public health and medicine. Medical science has evolved methods of preventing illness and increasing the length of life and well-being with which the public are not familiar and which are not being applied to the health of the public because of lack of education. The power of the cultist and faddist and the misunderstanding of the medical profession is largely due to the fact that we have neglected the public health education and have not tried to combat the large amount of misinformation that is being constantly presented.

Another important factor in public relations is leadership in public health activities. Government and lay agencies are attempting to bring to their communities health measures that have not been provided by the medical profession. There is no conflict of purpose between the physician and these health agencies, but mutual understanding and coöperation are necessary if either is to efficiently serve the public.

The medical profession is facing a vital problem in the necessity to supply to all classes of citizens qualified medical care at a cost within their financial ability. The most pressing need is that of supplying moderately priced service to people of moderate means. This problem of financing the costs of sickness is intimately interwoven with all modern social, economic, and industrial problems. It challenges the best thought and effort of organized medicine.

In this field of public relations the Woman's Auxiliary can be a forceful and efficient ally to the medical profession. In public health education the women of the auxiliary can reach and influence much larger groups than can the members of the profession. They are welcomed in these circles and their opportunities for molding public opinion are limitless.

In the field of medical economics the Woman's Auxiliary can bring to the public the truth about the costs of sickness, the necessity for qualified medical care and combat socialistic schemes for the solution of these problems.

The California Auxiliary has completed the formation of its state organization and is now ready for active work. The first task is establishing new county units as rapidly as possible. These new units should be placed only in those counties where the county medical societies have been convinced of the value of the auxiliary and where the members will support and foster its activities. The function of the auxiliary is to help and assist the county medical societies, and the auxiliaries can only be of real service where the county societies appreciate the need and will utilize the efforts of the auxiliary.

During the coming year one of the most essential work fields of the state auxiliary is to prepare study programs to be used in the county units for the education of their members, and for the use of other women's organizations. These programs for study should be worked out with the Advisory Committee of the California Medical Association. This study program should include information in public health, child welfare, and medical legislation measures that the California Medical Association deems necessary for the education of the women in California. The state auxiliary should supplement this program with package libraries and competent speakers available for each of the county units.

The county auxiliaries exist primarily to assist the county medical societies in their public relations. The first essential is an enthusiastic advisory committee in each county medical society where members are in full sympathy with the work of the auxiliary. The plans of the auxiliary should all be worked out with the Advisory Committee so that their efforts may be efficiently correlated.

The influence of the county auxiliaries will be exerted primarily through the other women's organizations to which their members belong. Through such contacts the auxiliary may spread reliable health information, using study courses, qualified medical speakers, and educational films.

Another immediate opportunity of the county auxiliaries is to support the public health activities needed in their counties. In every county there are the problems of prenatal care, child welfare, and prevention of contagious disease. Such activities as are approved and supported by the county medical societies are fields in which the auxiliaries may exercise a powerful influence for the public health.

Another function of the county auxiliaries deals with medical and health legislation. The members should have a general knowledge of the medical laws of the state and the health regulations of the county. Further, the auxiliary should study proposed medical and health legislation so that the members can know the need or the danger involved. It is most important to remember that the auxiliaries act as aids to the county medical societies and never on their own initiative in legislative matters.

In legislation at Sacramento the state and county auxiliaries will seldom be called upon to take an active part. The Legislative Committee of the California Medical Association must be free to deal with problems as they arise. Diversified attack from various counties in the state will frequently lead to dangerous confusion. The county auxiliaries are distinctly requested to take no action on any bills before the State Legislature until such action is requested by the Legislative Committee of the California Medical Association.

The county auxiliaries also offer an opportunity to promote good fellowship among the doctors' families and friendly coöperation between the doctors themselves. Wherever the auxiliary is functioning throughout the United States there is an increasing friendliness and understanding among the medical forces of the community.

Thus the Woman's Auxiliary in California has great opportunities in furthering the work and influence of the medical profession. As the name implies, the function of the auxiliary is to help and assist. This presupposes that all policies and activities will be first approved and authorized by the advisory committees of the county societies. In order to carry out its purpose the members of the auxiliary must have an accurate knowledge of the facts to be transmitted to the public. They must know the cold, unanswerable scientific facts concerning such subjects as the prevention of disease, child welfare, and maternal mortality. They must know the practical application of these facts to the health of the people. May I present this thought for your work during the coming year: "The doctor's wife must know the facts before she begins to act."

* * *

Message From the President of the California State Auxiliary

As the new president of the Woman's Auxiliary to the California State Medical Association I greet you.

Those of us who were fortunate enough to be able to attend the state convention in April were thrilled with the splendid businesslike and gracious manner in which Mrs. James Percy conducted the third annual convention at the Fairmont Hotel in San Francisco. If there has been any doubt entertained in our minds among the members as to whether there is a place for the Woman's Auxiliary, it was quickly dissipated after hearing the splendid reports of the president, chairman, and county presidents. However, the most outstanding accomplishment of the year's work was the Constitution, read to us for its adoption, which now gives to us a very definite plan on which we may build our organization. We are indeed greatly indebted to Mrs. James Percy, Mr. Hartley Peart, and Doctors Kress and Kinney for their splendid work.

I am fully convinced that the auxiliary can be made to be a real asset to the medical profession, and may I at this time make a few suggestions in which our organization can be definitely strengthened:

First: Try to perfect your organization. The first great need of each county auxiliary in this state is to complete the organization of its forces. Every member of the county medical society should be represented in the corresponding Woman's Auxiliary by his wife (if he has one), or by his mother, daughter, or sister.

Second: Make it a routine part of your life to read California and Western Medicine. There is a section in that journal set aside for the Woman's Auxiliary in which you will find reported the activities of your own state and generally some news from other states, or some short article bearing upon the development of auxiliary work.

Third: Make it one of your regular duties to attend every meeting of your own county auxiliary. Only by such close touch can you keep informed of the work of the auxiliary and of the medical profession.

Fourth: Support public medical activities. Urge upon your members the importance of aiding all proper neighborhood movements for the betterment of public health.

Fifth: Periodic health examinations. Among the most important preventive medicine measures advocated by the medical profession is that of periodic health examinations. You can develop that project by preaching it as the members of the medical profession are doing, and better still, by practicing it.

It is only by taking an active interest in these matters that the auxiliary can be developed to its greatest sphere of helpfulness in community affairs, as well as to the medical profession.

I earnestly request your coöperation in order that we may be couriers in the campaign for better health for all people.

Josephine Sargent (Mrs. William H.).

* * *

The Third Annual Session of the Woman's Auxiliary to the California Medical Association—Proceedings

The third annual session of the Woman's Auxiliary to the California Medical Association was held at the Fairmont Hotel in San Francisco April 27-29, 1931. It was a most pleasant and successful convention, and the ever present San Francisco hospitality was noticeable in the many entertainment features that were provided for visitors by the medical women of San Francisco, under the chairmanship of Mrs. Frank Hinman. The Fairmont Hotel afforded a delightful setting for all of the activities, and the auxiliary and its members were afforded every convenience in rooms for meetings and pleasures.

The convention started with a preconvention meeting of the board of directors. This was the second meeting of the board this year, the first having been held in Los Angeles at the Jonathan Club, with the members as guests of the president, Mrs. James F. Percy. The object of the meeting was to prepare convention rules, appoint convention committees and read, for final approval, a new constitution to be presented to the House of Delegates of the convention for adoption.

The first general meeting of the session was held in the Red Room of the Fairmont Hotel, Tuesday morning, April 28, 1931, with Mrs. James F. Percy, presiding. Mrs. Thomas A. Stoddard, second vice-president and member-at-large of the auxiliary, very graciously welcomed the members to San Francisco and briefly told of the formation of the auxiliary at Coronado in 1929 and its progress in the past two years from a charter membership of forty-six to a state-wide membership of 883. Mrs. Philip Schuyler Doane of Pasadena replied to the speech of welcome with a glowing tribute to San Francisco and its hospitality.

The report of the Credentials Committee, Mrs. George G. Reinle, chairman, was made by Mrs. Doane, showing that eleven counties were represented by fifty-four delegates and alternates seated as delegates. This year fifty-nine delegates were entitled to vote. The number of ladies registered as attending the convention was 164, which number included alternates, delegates, and members not entitled to vote. This shows the popularity of the registration desk, which was presided over by members of the Alameda County auxiliary.

Mrs. James F. Percy, president, gave a delightful but brief account of the work of the state organization this year. She reported that two new county units had been formed—San Luis Obispo and Sacramento—and that there had been considerable increased activity in Santa Barbara and Alameda counties.

The treasurer's report was given as follows:

Total receipts for the year ending April 27, 1931	$927.02
Total expenditures	206.93
Leaving a balance of	$720.09

The receipts included dues received for 1930 and 1931 and $18 for the Red Cross Relief Fund, while the expenditures included the payment of the 1930 National dues and the running expenses of the state organization.

Dr. Lyell C. Kinney came in at this time to give his advice and support to the new constitution which had been approved, with slight changes, by the Council of the California Medical Association. After the reading of the constitution by Mrs. Thomas A. Stoddard it was discussed and questions answered, a motion was made to substitute this constitution for the old Constitution and By-Laws. A two-thirds rising vote was asked and the vote was unanimous. The constitution was to take effect immediately upon the close of this session. The California Medical Association has very kindly offered to make reprints of this new constitution so that every member of the auxiliary can have one. The auxiliary is very grateful to Doctor Kinney for giving his time to this matter, and also to the members of the Council who took so much interest in the drafting and molding of the new constitution and for their support and advice.

The Auxiliary at this time was tendered the resignation of the first vice-president, Mrs. J. M. McCullough. This was accepted with extreme regret.

A Nominating Committee, composed of two members of the Board of Directors and three members elected from the House of Delegates, was formed, with Mrs. W. L. Blodgett as chairman, to bring in nominations of officers for the ensuing year.

The State Chairman of Publicity and Publication, Mrs. Henry S. Rogers, reported on her work with *Hygeia* and *Better Health*, and Mrs. W. H. Geistweit reported of her work, in San Diego particularly, as state legislative chairman. These reports ended the business of the meeting for the day.

A luncheon for the ladies immediately followed. This luncheon was beyond the most enthusiastic expectations. Approximately seventy-five were expected, whereas 115 attended for lunch and at least fifteen who could get no reservations for lunch came in after the speeches. Dr. Lyell C. Kinney, president of the California Medical Association, was the first speaker. He gave an enjoyable talk on the auxiliary as a powerful aid to the medical association, enumerating many ways for helping and emphasizing the meaning of the word "auxiliary." Dr. Junius B. Harris, president-elect, spoke next and very graphically described the devious and tedious journey of a bill through the legislature. He impressed upon us the importance of reading the pending bills and knowing their contents rather than their names and numbers.

In the late afternoon the medical ladies of San Francisco gave a beautiful tea to the president's wife, Mrs. Lyell C. Kinney, at the home of the San Francisco Medical Society on Washington and Laguna streets. The warmth and genuineness of this fine old mansion on Nob Hill gave an air of old San Francisco to the affair which was glorious. In the evening the gala occasion of the convention was held—the president's dinner and dance.

The second meeting of the session was held in the Red Room of the Fairmont Hotel Wednesday morning, April 29, with Mrs. James F. Percy presiding. The dues were fixed at this meeting, for 1931-1932, at fifty cents per capita, as national and state dues. Mrs. E. E. Coulter's report as chairman of the State Study Program Committee was read and placed on file.

Dr. Carl R. Howson of Los Angeles was present at this meeting and presented two resolutions to the auxiliary for their adoption. These resolutions were an expression of dissatisfaction with the title of the National Committee, headed by Dr. Ray Lyman Wilbur, "The Cost of Medical Care." Doctor Howson pointed out how unjustly the phrase "cost of medical care" could be interpreted and suggested the phrase "cost of illness" was more appropriate. The resolutions were adopted to be sent as our expression to Doctor Wilbur.

The Nominating Committee report was made by Mrs. W. L. Blodgett as follows:

"There is no North or South: we are one State, and we take pleasure in presenting the following names as officers for tht ensuing year:

President—Mrs. W. H. Sargent, Alameda County.

President-elect—Mrs. F. E. Coulter, Orange County.

First vice-president — Mrs. Charles D. Stevens, Santa Barbara County.

Second vice-president—Mrs. S. N. Weil, Contra Costa County.

Recording secretary—Mrs. Maynard Harding, San Diego County.

Treasurer—Mrs. Chester J. Teass, San Luis Obispo County.

Councilors-at-Large—Mrs. Henry S. Rogers, Sonoma County; Mrs. A. M. Henderson, Sacramento County; Mrs. Philip S. Doane, Los Angeles County; Mrs. F. E. Clough, San Bernardino County.

The election was by viva voce vote, as there were no other nominations for the offices and the vote was unanimous.

Election was then conducted for the district councilors, as provided in the new constitution, and the following ladies were elected, the districts being the same as those of the California Medical Association:

First District—Mrs. Lyell C. Kinney, San Diego County.

Second District—Mrs. John V. Barrow, Los Angeles County.

Third District—Mrs. C. P. Proudfoot, San Luis Obispo County.

Seventh District—Mrs. Louis H. Dyke, Alameda County.

Eighth District—Mrs. Frederick N. Scatena, Sacramento County.

Ninth District—Mrs. W. L. Blodgett, Napa County.

Three-minute reports from each of the county units were then presented by each president or her representative, describing the activities of the year. These were placed on file to become a part of the minutes of this meeting.

Upon completion of the regular business of the meeting, the president introduced the officers for the ensuing year, who were all present with the exception of Mrs. F. E. Coulter, the president-elect.

Mrs. James F. Percy then declared the third annual session of the Woman's Auxiliary to the California Medical Association closed.

The officers of the past year cannot fully express their appreciation and thanks for the coöperation and spirit of the members of the auxiliary, which went to make the meetings successful and enjoyable. They wish to thank the managers of the hotel, the pages of the meetings, Doctors Kinney, Harris and Howson for their help and instructive speeches, and the ladies of San Francisco, under the leadership of Mrs. Frank Hinman, for their delightful entertainment and courtesy both at the Yacht and City Clubs.

Mrs. Dexter R. Ball.

NEVADA STATE MEDICAL ASSOCIATION

W. A. SHAW	President
R. P. ROANTREE, Elko	President-Elect
H. W. SAWYER, Fallon	First Vice-President
E. E. HAMER, Carson City	Second Vice-President
HORACE J. BROWN	Secretary-Treasurer
R. P. ROANTREE, D. A. TURNER, S. K. MORRISON	Trustees

COMPONENT COUNTY SOCIETY

WASHOE COUNTY

The Washoe County Medical Society held its May meeting on the night of the 12th at the Library room of the Nevada State Building, with President Creveling in the chair.

Disposition of the usual routine business over with, the president introduced Dr. R. Graham Brown of Brisbane, Australia. Doctor Brown is in America on an extended postgraduate trip, doing work as an ear, nose and throat specialist. Doctor Brown took up the evening hour with a splendid off-hand talk, illustrating his lecture with a very great variety of lantern slides that he had gathered from his experience as a practitioner in London and Australia.

The address was convincingly instructive and covered a wide range of the histological and pathological structures of the upper air and lung areas. By the pictures he showed conclusively how infection of the upper air passages can travel down to the lower parts of the lungs and there set up many types of irritation with future ill results to the patient.

Doctor Brown's remarks were very positive on the pathological rôle that the tonsil plays, asserting that, after the fifth year of life, the tonsil becomes a pathologic influence rather than a physiologic aid to the human economy. In the speaker's opinion, much of the neuroses, the stomach troubles, such as nervous indigestion and ulcers, with related illnesses, were all directly attributable to diseased tonsils.

Suppurating ears, likewise, came in for a share of attention. The speaker said in his experience in the London hospitals all cases of suppurating ears were slated for adenoidectomy without reference to other examinations. A suppurating ear was always an indication for removal of the adenoids was the standing precept of the hospital.

These well-known pathological facts are, of course, well known to all specialists doing work along this line. The same thing is well known to all up-to-date physicians. But it is taking some time to convince the laity (and indeed some of the practitioners) that the future good hearing of the individual depends on how well his tonsils and adenoids have been cared for in childhood.

School supervision of children, together with school clinics, will greatly aid in raising the standard of future well-being in the coming adult.

In diphtheria cases which required long periods of time to secure in some cases three successive negative cultures of the throat, we found were clear within ten days to two weeks after tonsils and adenoid removal—an important fact for health officers to know.

Doctor Brown's lecture was well received. The local profession were glad to extend the welcome hand to the man from across the sea.

This concluded the program, and the meeting, with a splendid representation of local and some out-of-town men, adjourned.

Thomas W. Bath, *Secretary.*

UTAH STATE MEDICAL ASSOCIATION

WILLIAM L. RICH, Salt Lake City..........................President
R. A. PEARCE, Brigham City........................President-Elect
M. M. CRITCHLOW, Salt Lake City........................Secretary
J. U. GIESY, 701 Medical Arts Building,
Salt Lake City................................Associate Editor for Utah

COMPONENT COUNTY SOCIETIES

BOX ELDER COUNTY

The meeting of the Box Elder County Medical Society was held on the evening of April 9. Those present were: Doctors Luke, Pearse, Mahannah, and Betensen.

The paper of the evening was by Doctor Betensen on the "Injection Treatment of Varicose Veins of the Lower Extremities." Doctor Betensen stated that the reaction could be called a chemical phlebitis. He described the various substances used for injection, and stressed the following statements:

1. Be sure to see that the deep set of veins is open.
2. Use strict asepsis and keep all the solution inside the veins.
3. Use small needle so the solution will not leak out easily.

Recurrences do appear, but can be treated in the same way again. It is wise to look for all foci of infection before treatment.

R. A. Pearse, Secretary.

⁂

SALT LAKE COUNTY

The regular meeting of the Salt Lake County Medical Society was held at the Saint Marks Hospital on Monday evening, April 27. Thirty-five members and six visitors were present.

The minutes of the previous meeting were read and accepted without correction.

Dr. J. M. Schaffer was elected a member of the society, and the application of Dr. H. B. Spangler was read and turned over to the board of censors.

A letter from Dr. W. A. Shaw of Elko, Nevada, was read regarding the sale of his medical practice in that city.

An announcement from the Weber County Medical Society was read. Dr. Robert Coffey of Portland will address this society Thursday, May 21, on "Surgical Drainage of the Abdomen." A banquet will be held for the speaker at the Hotel Bigelow at 7:30 p. m.

The meeting was then turned over to Dr. E. M. Neher, chairman of the Clinical Society of Saint Marks Hospital. The following program was presented: "Arterial Sympathectomy," by M. C. Linden; "Pernicious Anemia," by D. L. Barnard; "Eclampsia," by R. S. Allison; "Carcinoma of the Cervix Uteri," by O. A. Ogilvie.

The meeting adjourned at 9:25 o'clock, after which refreshments were served.

* * *

The regular meeting of the Salt Lake County Medical Society was held on Monday evening, May 11, at the Newhouse Hotel. Forty-seven members and five visitors were present.

The meeting was called to order at 8:05 o'clock by President F. M. McHugh.

The minutes of the previous meeting were read and accepted without correction.

Dr. H. B. Spangler was unanimously elected a member of the society.

The following papers were presented: "Present-Day Views in the Treatment of Cancer," by L. R. Cowan; "Incidence and Treatment of Placenta Previa," by R. T. Woolsey.

These papers were discussed by Doctors J. P. Kerby, Q. B. Coray, L. Paul, R. R. Richard, J. S. Scott, T. Stauffer, L. Horne, J. R. Cornwall, and E. Rich of Weber County Society.

Dr. J. Z. Brown and Dr. J. P. Kerby reported on the changes in the industrial fee schedule as contemplated by the Fee Schedule Committee of the state association.

Barnet E. Bonar, *Secretary.*

⁂

UTAH COUNTY

The regular bimonthly meeting of the Utah County Medical Society was held at the Hotel Roberts, Provo, on the evening of April 22, at 6:30 o'clock.

After the customary dinner, which is always a feature of these meetings, the business and scientific program was enjoyed.

Dr. J. C. Landengerger of Salt Lake City was the chief speaker of the evening. The doctor read a very interesting paper on "Surgery of the Extremities." An added feature of his very complete discussion of the subject was the illustration of the highlights in the paper by means of moving pictures, which showed the actual work.

Charles M. Smith, *Secretary.*

⁂

WEBER COUNTY

The regular meeting of the Weber County Medical Society was held on April 16 at the Hotel Bigelow. A banquet preceded the meeting. President E. P. Mills presided.

President E. P. Mills announced the May appearance of Dr. Robert Coffey before the society.

Dr. F. K. Bartlett suggested that a program from the medical department of the University of Utah be incorporated into our yearly program.

The remainder of the time was taken up by Dr. O. A. Ogilvie, treating a paper on "Clinical Pathology of Carcinoma of the Cervix Uteri," and Doctor Johnson giving a summary of his research work on effects of sodium nitroprussid on blood pressure.

Conrad H. Jensen, *Secretary.*

UTAH NEWS

The biweekly health talks, which have been given under the auspices of the Utah State Medical Association during the past four months, were discontinued June 1.

It is hoped that arrangements may be made to resume these five-minute papers on timely medical topics in the fall.

The Radio Committee of the Public Health Committee desires to thank all the members of the local societies who have contributed papers to the various programs, and the state association desires to express its appreciation to station KDYL of Salt Lake for the courtesy shown its broadcasting team.

OBITUARY

John Stewart Sharp, M. D.

1852-1931

John Stewart Sharp, M. D., for nearly fifty years a prominent Salt Lake physician, dropped dead at Broadway and State Street, shortly before 9 a. m. Thursday. Death was attributed to a heart attack.

Passersby saw Doctor Sharp clutch his side and topple to the pavement. R. W. Gariff, 626 Twelfth East Street, and P. A. Tadje, 762 East Sixth South Street, took him in an automobile to a hospital, where he was pronounced dead.

Mrs. Addie Younger Sharp, widow of the physician, said he had suffered from an attack of asthma a week ago, but apparently had recovered. He was subject to slight heart attacks.

Doctor Sharp, who resided at 347 Third East Street and had offices in the Judge Building, was born in Carlyle, Pennsylvania, July 4, 1852. He studied at the Jefferson Medical College in Philadelphia and came to Salt Lake as a young man to practice his profession.

Surviving are a sister, Mrs. E. B. Price of Chicago, and a son, John Stewart Sharp, Jr. The latter is engaged as an engineer at the Flathead dam project in Montana.

MISCELLANY

Items for the News column must be furnished by the twentieth of the preceding month. Under this department are grouped: News; Medical Economics; Correspondence; Department of Public Health; California Board of Medical Examiners; and Twenty-five Years Ago. For Book Reviews, see index on the front cover, under Miscellany.

NEWS

Meeting of American Urological Association.—The western branch of the American Urological Association will hold its seventh annual session at San Francisco on November 6 and 7.

A number of eastern men will be on the program to address the urologists of the Pacific Coast and the Rocky Mountain states and the members of the San Francisco County Medical Society. Scientific papers, wet and dry clinics, with the usual banquet and other San Francisco hospitalities.

American Medical Golfing Association Tournament.—The seventeenth annual tournament of the American Medical Golfing Association will be held in Philadelphia, Monday, June 8, at the Aronimink Golf Club instead of the Huntingdon Valley Country Club, as announced in the brochure of the association which was recently mailed to members. The Aronimink Golf Club is modern; the course is in splendid condition and is interesting and sporty. The local committee is doing everything possible to make the tournament a great success. The Philadelphia men composing the local Committee on Arrangements are: Dr. John W. Croskey (chairman), Dr. Willis F. Manges, Dr. Fred H. Leavitt, Dr. Frank J. Kelly, and Dr. Damon B. Pfeiffer.

Membership in the American Medical Golfing Association is open to any male Fellow of the American Medical Association in good standing. It is hoped that many of the medical golfers throughout this state will join the association this year and take part in the Philadelphia tournament. There will be many attractive and valuable prizes awarded at the annual dinner, to be held on the evening of the day of the tournament, at the clubhouse. For any additional information, communicate with any member of the local committee, or with the executive office, 1124 Maccabees Building, Detroit, Michigan.

TWENTY-FIVE YEARS AGO*

EXCERPTS FROM OUR STATE MEDICAL JOURNAL

Vol. IV, No. 6, June 1906

From some editorial notes:

Pure Food and Drugs.—Wonder of wonders!—the Pure Food Bill has actually been passed by the Congress of the United States, and become a law! To be sure, it has required patient, persistent effort for nearly twenty years, but now that the end has been gained, who will stop to count the effort and empty years? And it is, in some respects, a stronger, better law than we could have hoped. The term "drug," as used in the Act includes "Any substance or mixture of such substances intended to be used for the cure, mitigation or prevention of disease of either man or other animals."

And just think about this, a part of the law, in spite of all the efforts of the truly honest, patriotic, philanthropic, and virtuously high-minded members of the Proprietary Association of America to defeat it: A "drug" shall be considered to be "misbranded" and within the condemnation of the law "if the package fail to bear a statement on the label of the quantity or proportion of any alcohol, morphine, opium, cocaine, heroin, alpha or beta eucaine, chloroform, cannabis indica, chloral hydrate, or acetanilid, or any derivative or preparation of any such substance contained therein."

Much Yelping.—He of small consequence in the world is in no danger of being abused. We do not claim this idea as original, for the saying is old that "men may be measured by their calumniators, as steeples by their shadows." It is brought to mind by the yelping of the "yellow dogs" of the nostrum men, and by the howls of those commercially minded medical "editors" or publishers who feed from the same nostrum dish as the yellow dogs. They cannot find words or sounds or type enough to express their anger against the American Medical Association! . . .

Muck Rake.—The President, Mr. Roosevelt, has brought upon himself no small amount of criticism for his now famous "Muck Rake" address. . . .

Probably we are classed by some of our—friends?—as of the "muck rake" persuasion. Certainly we have, from time to time raked over our own medical back yard and disclosed some of the nastiness of the nostrum muck—some, but not all. If this be the case, and we are so classed, it is rather a distinction than a reproach; but none the less the job is not a pleasant one. It is not a pleasant task to rake through the muck and find evidence of good men gone wrong through ignorance—or for a consideration. It is not pleasant to find manufacturers presenting a fair and would-be scientific face publicly to our profession, while at the same time, like swine, fattening on the filth and nastiness of the nostrum muck. . . .

How to Say It.—When one suddenly discovers the strongest kind of friendship extended to him; when, in the hour of dire need and overwhelming trouble, succor follows swiftly on the heels of disaster and aid is proffered and extended without a thought of hesitation, how may one express his feelings of grateful appreciation? To say "thank you" seems so bald—so empty—so expressionless; one is confronted with the paucity of the English language. Scarcely had the news of our disaster of last April been noised abroad, before telegrams and letters began pouring in, transmitting money, authorizing drafts, notifying us that funds were being raised in all parts of the United States for the relief of San Francisco's stricken physicians. . . .

From the "President's Address, Thirty-Sixth Annual Session of the Medical Society of the State of California" by Robert R. Rooney, M.D., Auburn.

One of the greatest movements of the day in our own country is the growth of our medical societies. Everywhere, from Maine to California, and from Washington to Florida, the medical men are awaking to the advantages to be derived from their medical associations. Our own state society has grown within the past few years into an august body that is a credit to the profession of California. It has reached out and covered almost the entire state, and is still growing. I am proud that I have borne even a small part in this great work.

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* This column strives to mirror the work and aims of colleagues who bore the brunt of state society work some twenty-five years ago. It is hoped that such presentation will be of interest to both old and recent members.

A quarter of a century ago, when I joined this society, it had about three hundred members, and was rent by contending factions. Now it is climbing rapidly toward the two thousand mark, and still progressing. Even to be a humble stone that helped in the erection of this great edifice, is a lasting honor. But we count not alone the growth of this great Mother Society, but also the nursing into activity of the county units. Here is where the greatest good to the rank and file of the profession is accomplished. Here the local jealousies are smoothed away; man meets man, and personal contact erases the prejudices that cause enmity, and lays the foundation for respect and esteem.

It is fifty years ago since this society was founded, and it is fitting that we should pause a moment and look back over the last half century, and recall the labors of our fathers. Let us contemplate the founding, the growth, the history, and the present condition of this Association.

On March 12, 1856, seventy-six physicians gathered together at the city of Sacramento, and organized the Medical Society of the State of California. . . .

. . . In 1859 the society returned to Sacramento, and Dr. R. B. Ellis received the honor of the presidency.

Here comes an interregnum of eleven years, during which time the society fell to pieces. The reason for this was no doubt twofold. Firstly, there was no law in any way regulating the practice of medicine in the State of California, and every man was governed by his own desires. If a man was a gentleman he acted accordingly; if he was not, he could be guilty of any indiscretion, and there was no redress. Secondly, there occurred a dire disaster to our country at this time that shook the very foundation of the nation, and no wonder our society fell. I allude to the Civil War. . . .

On October 19, 1870, in answer to a general call, a meeting was held in San Francisco, and the society was reorganized. As a result the society was incorporated on November 1, 1870, Dr. T. M. Logan, President. From this date onward, this society has been in fairly satisfactory state, and has been doing good work. In 1876 the registration law was passed, and caused considerable friction. The medical school question was always in evidence for twenty years, and the society was practically divided into two rival camps. To quiet individuals like myself, who always worked for peace and harmony, it was a most trying time. The warring factions would cry "peace, peace," but there was no peace. Conditions, however, slowly but surely improved, and in 1900 the suggestion was broached that the society be reorganized on a broader and more liberal basis. This matter came up again in 1901 at Sacramento, and a committee was appointed to prepare a constitution and by-laws for reorganization. At the same time the matter of abandoning the *Annual Volume of Transactions,* and substituting therefor a medical journal, was first suggested. The reorganization committee reported at the meeting in San Francisco in 1902, and their recommendations, with the constitution and by-laws presented, were adopted. Some needed changes were made the following year at Santa Barbara, and this society entered upon a new era of peace and prosperity. In November of this same year our state journal entered upon its career of usefulness. In 1903 the annual publication of the *Register and Directory* was begun, which is so convenient and useful. In 1856 this society started out, as before noted, with a membership of eighty. Today our ranks stand 1768 strong. Have we not reason to be proud? Let us emblazon "Onward" on our banner, and keep it ever at the front!

CORRESPONDENCE

Subject of Following Letter: A Lay Criticism of Modern Hospitals and a Reply Thereto

To the Editor: Enclosed herewith find a clipping from the Alma Whitaker column of the Los Angeles *Times* of May 12, and a copy of a letter which the undersigned wrote to Mrs. Whitaker in reply thereto.

Very truly,
G. W. Olsen,
Superintendent, California Hospital at Los Angeles.

* * *

The Clipping follows:

HOSPITAL DAY

By Alma Whitaker

Fifty Southern California hospitals are going to keep open house today to celebrate National Hospital Day. It is to be made a notable occasion. And it is.

No movement anywhere has been so sumptuously successful and gained such a grip on the national consciousness as the hospital movement. Of course, the hospital idea has been extant for centuries, but they used to be few and far between and usually in the hands of some religious denomination. It is only during the last fifty years that the hospital idea has been "sold" so brilliantly by the medical profession that it is no longer considered the thing for new babies to be born at home, and any sort of sickness worth mentioning calls for an immediate removal of the patient to a hospital.

Outside of city, county, and government hospitals generally, hospitals cost like the dickens. They are run by first-class business men who have made it no end of a luxury to get sick in these halcyon modern times.

The gem of them all is the private hospital or sanatorium. These have made themselves so essential on a basis of superscientific diagnosis, blood tests, stomach pumps, metabolic basis tests, lung, kidney, liver, heart tests, etc., etc., that nice rich people just go into them every so often, at from $7 to $22 a day for their room and extra for all the jolly x-ray and other tests, just to make sure they are keeping fit.

Here there is a head proprietary physician who employs half a dozen lesser physicians and armies of pretty nurses, and things are run on a first-class hotel style. Each separate patient is made to feel that his case is one of the most interesting that ever entered the hospital. They can often accommodate between 200 and 300 people who can afford the luxury. These patients have a wonderful time explaining all their symptoms, having their pulse and temperature taken every hour or so, being given a diet suited to their special case and getting generally petted and made to feel delightfully important.

A hospital must be a marvelous place to study the profession of medicine and surgery at first hand. How else could doctors get practical experience? The public raises millions to provide hospitals for doctors to take their postgraduate courses in, and steer their patients to afterward, and all the latest mechanical and scientific inventions for the doctors to work with free of charge. What profession, I ask you, has succeeded in securing such sumptuous backing? It amounts to a glittering subsidy in a nation that frankly dislikes subsidizing any professions or industries.

But I still hate the smell of hospitals, so there. And personally I intend being sick at home in future . . . if the Public Health Department doesn't find a law by which I can be compelled to go to a hospital.

* * *

The Reply of Mr. G. W. Olsen follows:

Los Angeles, May 16, 1931.

Dear Mrs. Whitaker:

Your article in last Tuesday's "Times" is, like everything from your pen, very clever. I wish I could say something more complimentary. . . .

But we hospital folk are terribly sensitive about anything which treats us and our work flippantly or derisively. We are daily witnessing how serious a matter sickness and physical injury is, and what awful consequences follow the attempts of irregulars and incompetents to cure sickness and heal injuries without the "jolly x-rays" and what you term "superscientific diagnosis," i. e., laboratory examinations and tests. People are likely to get the impression that you regard these essential means to correct diagnosis as just so much "hooey" devised to bilk the public.

As to the prices you quote, how much does one get for the same money at good hotels? Or do you know how much profit hospitals actually make? Good business men will have nothing to do with hospitals for the very reason that the ethics of the hospital profession frowns upon profit.

You are very unjust to the medical profession when you say that the public gives millions of dollars to provide a place for them to take their postgraduate courses in, and that doctors are the only profession given such advantages. What about the millions of dollars' worth of medical service rendered free by the doctors in all of our public hospitals and some of the private ones?

You overlook the benefits to the public and mention only what the doctors may get out of it, which, in fact, are the least important results of our great hospital system. Then, speaking of advantages provided at public expense, what about the lawyers I hold that the legal profession is the most subsidized. We build courthouses, hire judges and an enormous retinue of clerks, all for the free use of the lawyers, and they are permitted to charge fees for what use they make of these facilities. We even provide them with law libraries at taxpayers' expense. . . . .

I hope you will consider this, and some day when you have an opportunity, correct the wrong you have done the noblest professions in our civilization—the doctors and nurses, which combine to make the hospital.

Hospital smells? You evidently haven't visited a modern hospital. Call and see us some time and let me show you through a smell-less hospital.

As president of the Hospital Council of Southern California, an educational forum of some fifty hospitals in the Southland, I have written this in my concern for the good name and welfare of these essential community service institutions.

With assurance of my high regard, and hoping that my criticism will be received in the constructive spirit in which it is offered, I remain

Very truly yours,
G. W. OLSEN,
Superintendent, the California Hospital.

Subject of This letter: A Newspaper Item on "The Effects of Coffee on Sleep." As presented in the May California and Western Medicine, page 359, and the Letter of Transmittal of the City Editor of the Los Angeles *Times*.

The excerpt from the newspaper article in the Los Angeles *Times* of May 15, 1931, commenting on the San Quentin Prison experiments above referred to, follows:

COFFEE FOES HAVE NO GROUNDS

Old Belief That Cupful at Night Keeps One Awake Found to Be False in Tests Made on Group of Prisoners at San Quentin by Medical Department

Into the limbo of exploded fallacies now must go another of grandma's pet theories—the one about drinking coffee before going to bed. The time-worn admonition, "coffee will keep you awake," must take its place beside "a drink of whisky for a snake bite," and "just tie an old sock around your neck and the sore throat will be gone." And this is not a coffee advertisement.

Scientific tests conducted right here in California have blown up the coffee fallacy, proving, even, that a person actually rests better at night after drinking coffee at bedtime than when a cup of hot water serves as a nightcap.

The tests were conducted in San Quentin penitentiary, which offers plenty of ground for argument by both pro and anticoffeeists. The former can point out: "And if ever there's a place where a person might be inclined to lie awake at night, it's in a prison." The antis can counter with: "But they wouldn't sleep anyway in there."

Officials of the medical department of the prison, working entirely independently, ... arranged the tests. They devised apparatus for the work and selected seven subjects from among the inmates.

It was hoped to obtain data as to the normal changes of position which an individual makes during his sleeping period and to find out what difference the drinking of a cup of coffee before retiring would show from the average soundness and movements of sleep," states the May number of "California and Western Medicine," which revealed the results of the tests. . . .

The figures, after a check-up following the tests, showed the average of movements per hour of the seven men normally was 10.42. With hot water on retiring, the average was 8.43. With a cup of coffee before going to bed it was 8.07.

It was not stated whether or not there will be a "coffee hour" at the prison before bedtime nightly in the future.

* * *

With this clipping came a letter of transmittal to the editor of California and Western Medicine from his friend, the City Editor, which follows:

To the Editor: I am attaching clipping of article appearing in "The Times," relating to the effects of a cup of coffee before retiring, data for which you so kindly sent, and I wish to thank you for your thoughtfulness. It made a dandy story.

However, might I suggest that you get your doctors together again and figure this out:

For years I have been attempting at intervals to drink a cup of coffee at night and get some sleep before 4 a. m., but never with success. Now, do I have to go to San Quentin to attain my ambition, or is there some home treatment?

I promise to keep replies secret. Respectfully,

CITY EDITOR.

CALIFORNIA LEGISLATURE OF 1931

From information at hand at the time these comments are written, the status of certain proposed laws in which public health and medical interests were seemingly more or less involved is as follows:

The Senate did not adjourn until midnight of Friday, April 15, and the Assembly worked until the wee small hours; hence it is impossible to make a report on the outcome of legislation until the history of both houses is in print.

SENATE BILLS

S. B. 175 (Fellom) refused passage in the Senate May 8, 1931, by a vote of 13 ayes, 23 noes.

S. B. 194 (Young), amending Section 6 of the "Narcotic Rehabilitation Act" by prescribing a penalty for violation of parole, approved by Governor, April 24, 1931. (Chapter 210, Statutes 1931.)

S. B. 195; S. B. 196; S. B. 318 (Young), all signed by the Governor and are now Chapters 211, 212, and 216, respectively, Statutes 1931, all relating to the conduct of the Spadra Narcotic Hospital.

S. B. 408 (Williams) amends Section 347½ of the Penal Code, relating to the sale and use of drugs. Signed by the Governor April 27, 1931. (Chapter 249, Statutes 1931.)

S. B. 359 (Young), amending Sections 1, 2, 3, 4, and 14, Chapter 216, Statutes 1929, regulating the sale, possession, distribution, etc., of habit-forming drugs. According to the Senate history of May 13, 1931, has passed both houses and returned to the Senate for concurrence in Assembly amendment.

ASSEMBLY BILLS

The following information is noted from the Assembly history of May 13:

A. B. 72 (Badham), relating to medical treatment of prisoners. Approved by the Governor on May 11. (Chapter 286, Statutes 1931.)

A. B. 477 (Neilson), creating a medical library. Passed by Assembly and passed by the Senate, May 15. Awaiting consideration by the Governor.

A. B. 1520 (Patterson), amending Section 1 of the Medical Practice Act relative to terms of members, reported passed the Senate May 15.

A. B. 1281 (Jepperson and Bliss), which proposed to create a Board of Naturopathic Examiners, was tabled at the Assembly Committee meeting April 23, 1931.

A. B. 1234 (Gilmore), proposed to create a Board of Masseurology, with power to issue licenses, which would permit a broader scope of practice than now allowed in the Medical Practice Act to drugless practitioners, was tabled by the Assembly Committee at the first hearing.

A. B. 1501 (Powers), originally introduced to regulate the practice of dentistry, amended April 30, to become an amendment to the Pharmacy Act.

A. B. 1521 (Patterson), originally a bill to regulate the practice of optometry, amended May 1, to become a bill creating a Department of Public Health.

A. B. 1680 (Easley), originally a bill amending contractor's law, was on April 6 amended to become a bill providing a penalty for impersonating a public officer.

A. B. 14 (Patterson), originally amending the school code, became on May 5 an act amending Sections 372, 372a, and to repeal 372g of the Political Code, relating to the Department of Public Health.

A. B. 1393 (Roberts), originally regulating embalming, became on May 5 an act regulating the practice of structural pest control and creating a board therefor.

A. B. 1763 (Craig), originally relating to county free libraries, on May 5 amended to become an amendment to the Political Code, relating to the salary of the Superior Judge of Alpine County.

A. B. 1851 (Craig), originally relating to the compensation of township officers, amended May 5 to provide for sale of property of the California Polytechnic School.

S. B. 634 (Cassidy), originally amending Sections 1, 2, 3, and 4 of the Medical Practice Act, became a bill creating a Bureau of Tuberculosis under administration of several salaried individuals.

MEDICO-LEGAL

DEFINITION OF "HERBS"

In these days when cultist medicine so often crosses the stage, clothed in costume most peculiar and with speech, even more so, one not infrequently meets that particular type whose disciples accentuate the virtues of "herbs."

From the medico-legal standpoint a definition of herbs is not a simple matter. Particularly so, the limitations of "harmless herbs" which have been paraded before juries almost times without end.

A recent opinion which has been called to our attention, and which is notable because of its clarity, was one which was written by Chauncey D. Leake, Ph. D., professor of pharmacology at the University of California. It is here printed because it could be a useful reference in medico-legal medicine.

* * *

Chapter 1875 of the Code of Civil Procedure of California provides:

"Courts take judicial notice of the following facts:

"(8) In all these cases the Court may resort for its aid to appropriate books or documents of reference."

In re: Definition of "Herb"

A definition of "herb" used in a semitechnical sense, as may be found by reference to any standard dictionary is, "a plant of economic value, specifically one used for medicinal purposes." Very many hundreds of plants are well known to have medicinal value, and all those reputed either by folklore, tradition, or hearsay, in every land on earth, to have any medicinal value, have at some time or other been subjected to careful scientific study in order to evaluate accordingly their possible usefulness in medicine. Plants contain many diverse materials: cellulose, gum, wax, salts, tannin, coloring matter, and very frequently varying amounts of chemical agents known as "active principles" which generally are either alkaloids or glucosides. The possible usefulness of any plant for medicinal purposes depends upon the "active principles" which it contains. Most of these "active principles," such as alkaloids, atropin, morphin, cocain, caffein, and ephedrin, or the glucosides, such as are found in digitalis, are extremely poisonous and extremely dangerous if not used in exact and careful dosage. Since the amount of such "active principles" found in any one plant may vary considerably, depending upon the soil and climatic conditions in which the plant is grown, it is necessary that the "active principles" contained in any such herbs be carefully standardized in order to be able to use them in uniform strength or potency. It is generally necessary to remove impurities and poisonous materials of various sorts from herbs in order to secure the "active principles" in a satisfactory form for proper medicinal use. There is no such thing as a "pure harmless herb" that may have medicinal value. If it has any medicinal value at all, it is certain to be dangerous if used without exact knowledge of its strength or potency as determined experimentally so that the dosage may be a safe one. The majority of plants probably contain no "active principles." They, therefore, have no effect whatsoever upon the living human body; they are, therefore, without any medicinal value and only then can be considered harmless. A really harmless herb, containing no "active principles," and therefore having no medicinal value, would certainly be fraudulently employed if offered for use in the treatment of disease. It might be pertinent to indicate that the "active principles" of medicinally useful herbs are determined by expert chemists and not at all by physicians. Physicians must rely upon the experimental evidence obtained by chemists, pharmacists, and biologists for the applications to be made of any herb in medicine.

DEPARTMENT OF PUBLIC HEALTH

By Giles S. Porter, M. D., *Director*

Septic Sore Throat.*—So far, only one epidemic of septic sore throat has been noted in California, that of Pleasanton in 1926. Recently, the occurrence of a small group of cases in southern California, with the identification of human carriers of the ***Streptococcus epidemicus,*** caused the State Board of Public Health to make the disease reportable, in order that more complete information of its prevalence may be obtained and measures taken to prevent its spread.

To aid physicians in the intelligent reporting of this disease, a brief discussion of its clinical characteristics is in order. The infection is, unfortunately, not a well-marked clinical entity, in which respect it resembles influenza. The latter is easily recognizable when it occurs epidemically, but who can say with certainty as to a given individual case whether it is influenza or not. So it is with septic sore throat; there is nothing distinctive in the clinical picture.

After an incubation period of two or three days the onset is sudden, frequently with a chill, prostration, and there is usually a moderate leukocytosis. Patients frequently complain of headache and aching of the limbs, so that influenza may be suspected. Localization in the throat occurs within a few hours and the extent of local disturbance ranges all the way from a simple injected pharynx to an extremely painful condition of the tonsils covered with a slimy grayish membrane suggesting diphtheria. A very common complication is adenitis of the cervical and submaxillary lymph glands. Indeed, outbreaks of the disease have been identified bacteriologically in which the throat symptoms were practically absent and fever and glandular enlargement were the only symptoms. Glandular fever or infectious mononucleosis may, therefore, be a confusing factor in diagnosis, particularly since there is an anginal type that may resemble any sore throat such as diphtheria, scarlet fever, follicular tonsillitis or Vincent's angina. The differential diagnosis rests on the blood differential count and the bacteriological examination of throat cultures. The cultures cannot be made from ordinary swabs as sent in for diphtheria, but require the inoculation of special culture media at the bedside and the rapid transfer of cultures to the laboratory. In infectious mononucleosis there is an increase of large mononuclear cells in the blood, sometimes with an almost entire absence of small lymphocytes. It should be remembered that there may be at the outset of glandular fever an increase of the white count, with a polymorphonuclear leukocytosis, but with convalescence a leukopenia develops with a marked relative increase of the mononuclear cells. Another condition to be mentioned in connection with differential diagnosis is agranulocytic angina. In this disease, which is characterized by enlarged glands and a severe angina, there is usually a leukopenia and a complete disappearance of polymorphonuclear leukocytes, the predominating cell being small lymphocytes.

The complications and sequelae of septic sore throat are numerous and may include almost any of the clinical manifestations of streptococcic invasion, such as otitis media, abscesses, nephritis, erysipelas, and peritonitis.

Septic sore throat undoubtedly occurs, as does influenza, endemically, a patient at a time, from direct contact with other infected persons. It is only when the milk supply becomes infected that the epidemic form appears and the disease becomes easily recognizable. It follows therefore, that doctors are not expected to identify and report a sporadic case, which, indeed, is impossible, but the occurrence of a number of cases in their practice should be brought to the attention of the health officer and a card for each individual case sent in.

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* Data prepared by W. H. Kellogg, M. D., Chief, Bacteriological Laboratory.

Prevention.—According to our present knowledge of the subject, the infection is of human origin, but inoculation of the udder of the cow is a prerequisite to the appearance of human cases in epidemic form. The cause of the disease is the *Streptococcus epidemicus,* which is found in the throats of human cases, in the milk of cows with garget found in herds connected with human outbreaks, and in the throats of human "carriers." Whether or not the disease spreads from cow to cow is not definitely known, but the evidence is against it so far. Whether or not all strains harbored by human carriers are virulent and capable of infecting cattle is likewise not known. A temperature of 60 degrees centigrade for twenty minutes kills the *Streptococcus epidemicus;* therefore efficiently pasteurized milk is safe, and if all milk were pasteurized there would be no problem. But all milk is not pasteurized nor is it, according to the belief of some, desirable that it should be. Therefore, measures must be invoked for the protection of persons using certified and other grades of raw milk. All persons suspected of carrying pathogenic streptococci should be excluded from contact with cows and barred from occupations having to do with the handling of raw milk for human consumption. Rigid inspection of the cows for evidence of garget should prevail and the dairymen should give attention to lesions and injuries of the teats, applying treatment to favor prompt healing. Experimentally, cows have been infected through slight abrasions of the teats.

It is to the interest of the dairy industry and the public that full coöperation be given health officers and physicians in the discovery of early cases of sore throat among the milk consumers, in the prompt exclusion of suspected individuals from dairy employment until proven harmless, and the prompt exclusion of the milk of a cow suspected of having anything wrong with the udder.

It cannot be authoritatively stated at the present time whether or not an intensive search for human carriers would justify the added burden that would be imposed on the laboratories. Technical difficulties stand in the way, one of which is the frequency of streptococci of some sort in throats generally, requiring expert laboratory service for their differentiation.

Perhaps the most valuable laboratory procedure for prevention of septic sore throat is the examination of milk from individual cows. Most public health laboratories are too poorly supported in the matter of a sufficient number of bacteriologists to undertake even the minimum amount of work that would be required to take care of the community they serve.

Finally, for the individual who is determined to protect himself from the possibility of infection, pasteurized milk is the only complete safeguard.

CALIFORNIA BOARD OF MEDICAL EXAMINERS

By Charles B. Pinkham, M. D.
Director of the Board

News Items, June 1931

On April 18, 1931, Attorney-General Webb is reported to have rendered a decision based upon Hayman vs. Galveston, 273 U. S. 414, and Newton vs. Board of Commissioners, 282 Pac. 1068 (Colo.), wherein is held that all licensed physicians do not have a constitutional right to practice their profession in a hospital maintained by a state or political subdivision, it being further related that the court held that "it was not incumbent upon the state to maintain a hospital for the private practice of medicine," and that this decision is based on the ground that the "board controlling the particular hospital has complete supervision of such hospital and that regulations excluding from such hospital the devotees of some of the numerous systems or methods of treating diseases, authorized to practice the profession of medicine, was neither unreasonable nor arbitrary." *This decision empowers authorities of public hospitals to elect those who will be afforded the opportunity of treating patients therein.*

According to reports, a new degree was discovered following the arrest in Santa Ana of Charles Kent, in whose possession was found a diploma conferring upon him the degree "Doctor of Eliminopathy," assertedly issued by Paul S. Dietrick, president of the Scientific Life Society of California, incorporated in this state March 13, 1931.

"A charge of performing an illegal operation was expected to be filed in Tulare County today against S. A. Barber, Porterville, following an investigation of the story of Miss Virginia Tarleton, twenty, of Mendota. . . . Doctor Barber is expected soon to start serving, in Visalia, an eight months' jail sentence, imposed after he was convicted recently on a charge of selling narcotics . . . (Hanford *Sentinel,* May 1, 1931). A citation has been issued calling Schuyler A. Barber, M. D., before the Board of Medical Examiners at the July meeting to show why his license to practice in California should not be revoked, based upon his narcotic conviction.

"Matthus Blankenburg, Mecca 'Miracle Man,' was found guilty yesterday in the Mecca Justice Court of violation of the Medical Practice Act. . . . Blankenburg waived time and was sentenced to 180 days in the county prison camp and a fine of $300. . . . Blankenburg was arrested on a charge of violation of the Medical Practice Act after he had assertedly treated an eighteen months old Mexican girl for pneumonia when she was suffering from some other ailment from which she died. Blankenburg was convicted on a similar charge about two years ago and served six months in the county prison camp" (Riverside *Enterprise,* April 30, 1931). (Previous entries, February and April, 1928.)

Charles S. Benson, Los Angeles licensed chiropractor, according to reports, on April 23 pleaded guilty to a violation of the Medical Practice Act and was sentenced to pay a fine of $250 or serve twenty-five days in the city jail. Sentence suspended.

A recent investigation of the activities of the Chan & Kong Herb Company, San Luis Obispo, resulted in a plea of guilty filed by F. Chu on May 2, and he was sentenced to pay a fine of $100 and given a thirty-day suspended jail sentence on condition that he no further violate the Medical Practice Act.

"Dr. E. (Fay) Cramer, Hawthorne physician, yesterday was given a suspended sentence of three years in the federal prison by Federal Judge Paul J. McCormick, following his conviction of violating the Harrison Narcotic Act. He paid a fine of $250" (Los Angeles *Illustrated Daily News,* May 6, 1931).

"Berkeley police today made search for a young man who yesterday ordered nine fake diplomas in the name of Miss Adelaide Smith, principal of the Wellesley School for Boys at 2429 Channing Way. The young man gave his name as 'Terry Hale of 154 Tunnel Road,' when he ordered the diplomas from August Brandeis, Berkeley printer. The police learned that the address given by 'Terry Hale' was nonexistent" (San Francisco *Call-Bulletin,* May 12, 1931). California's diploma mill law provides punishment for individuals using spurious diplomas under the Medical Practice Act.

On March 31, 1931, the Supreme Court of this state was reported to have affirmed the judgment of conviction of murder in the second degree imposed on George E. Darrow, M. D., by the Superior Court of Los Angeles. (Previous entries, September, October, and November, 1929; January, March, and September, 1930.)

"Isaac J. Fink, alias Boris M. Gornostayoff, forty-two, who claims to be founder of Lincoln University in San Francisco, today was sentenced to serve two years and eleven months in the Ohio penitentiary . . . " (San Francisco *Call-Bulletin,* April 29, 1931).

" 'Dr.' Clyde Jackson, twenty-seven, who claims degrees from several colleges and qualifications for practicing medicine, but who, Berkeley police claim, is better known for passing worthless checks, was remanded to Superior Court to face trial yesterday at his preliminary examination before Police Judge Oliver Youngs of Berkeley. . . . 'The only degree-taking we can find involving this man Jackson is that he graduated from two reformatories and later took postgraduate work at the Iowa State Penitentiary,' declared Inspector James Wilson . . . " (San Francisco *Examiner,* April 24, 1931).

Los Angeles Superior Judge Walter S. Gates on April 9, 1931, affirmed the decision of the Board of Medical Examiners in revoking the license of William I. Kinsley, M. D.

According to reports, Frederick Larson on April 18 pleaded guilty in La Crescenta Justice Court and was sentenced to serve sixty days in the county jail, such sentence being suspended for six months on condition that he no further violate the Medical Practice Act.

On April 8, 1931, Los Angeles Superior Judge Walter S. Gates rendered an opinion in the case of Eugene J. Rinaldo, Petitioner, vs. Board of Medical Examiners, Los Angeles Superior Court No. 262752, in Contempt, closing said opinion with the following paragraph: "It is hereby ordered, adjudged and decreed that the respondents, Clark L. Abbott, Harry V. Brown, George Dock, William H. Geistweit, William R. Molony, Percy T. Phillips, Charles B. Pinkham, Henry A. L. Ryfkogel, Charles E. Schoff and H. Miller Robertson, members of the Board of Medical Examiners of the State of California, are not guilty of contempt of court."

"Dr. David A. Stevens, sixty-one, gets two-year prison term for two alleged statutory offenses against young children" Los Angeles *Record,* April 14, 1931).

"The board 'was not bound by the action of the Superior Court in acquitting appellant of a charge of abortion . . . and evidence of such acquittal was properly rejected' (Tapley vs. Board of Medical Examiners, 64 C. A. D. 372). There are no decisions in California squarely in point. In Colorado it has been held that the Board of Medical Examiners is not bound to accept as final a judgment of acquittal in a criminal court (State Board, etc., vs. Noble, 177 Pac. 141)." (Los Angeles *News,* April 28, 1931.)

The record shows that on April 23, Z. A. Taylor pleaded guilty in Los Angeles to a charge of violation of the Medical Practice Act and paid a fine of $100.

" 'Dr.' Paul LeRoy Williams, local chiropodist, pleaded guilty in Justice Harry V. Brenton's court here today to practicing surgery without a license and was sentenced to serve ninety days in the county jail. . . . (Press dispatch dated Hanford, May 11, 1931, printed in Fresno *Bee.*)

"Dr. Dagmar Peterson, local physician, paid a fine of $50 in Judge M. F. Patterson's court Friday, when she pleaded guilty to violation of the State Narcotic Act . . . " (Selma *Irrigator,* January 22, 1931).

"Mrs. Mary Wagner, charged by Dr. C. A. James, a member of the City Health Board, with overstepping her authority as a city health nurse, in sending two contagious patients of his to the County General Hospital, will be officially reprimanded for her action" (Fresno *Bee,* February 5, 1931).

"Dr. Darrington Weaver, Los Angeles physician with offices at 5010 South Central Avenue, was convicted before the court in Department 21 of the Superior Court on Monday of this week upon five counts, charging sale of narcotics. . . . Dr. Weaver came to California from St. Louis and has been prominent in the practice of medicine on the east side for the past ten years . . . " (Los Angeles *Eagle,* February 6, 1931).

BELIEVE IT OR NOT

You can't live fast and live long.

You can't drink intoxicants and drive safely.

You can't safely light the kitchen fire with coal oil.

You can't run a car in a closed garage and always escape alive.

You can't get smallpox if recently successfully vaccinated.

You can't guess a gun is not loaded and safely point it at anybody.

You can't always judge the safety of a cook by the neatness of her dress.

You can't control an outbreak of contagious disease by closing the schools.

You can't keep a loaded gun in the house without being in constant danger.

You can't judge the safety of a glass of water by its clear, sparkling appearance.

You can't starve down and grown thin without weakening your resistance to disease.

You can't judge the desirability of a restaurant by the appearance of the room.

You can't eat largely and get fat without developing fatty degeneration of the organs.

You can't play long with explosives without their blowing up with surprising suddenness.

You can't determine how many people have coughed disease germs upon foods which are exposed.

You can't be careless in nursing a typhoid patient without danger to him, to yourself, and to others.

You can't do the most effective work when handicapped by an uncorrected physical defect or suffering from preventable disease.

You can't have unreported and unquarantined cases of contagious disease in your home without endangering your neighbors and arousing their enmity.

—H. B. W., *Pennsylvania Health,* September, 1930.

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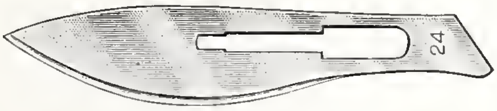

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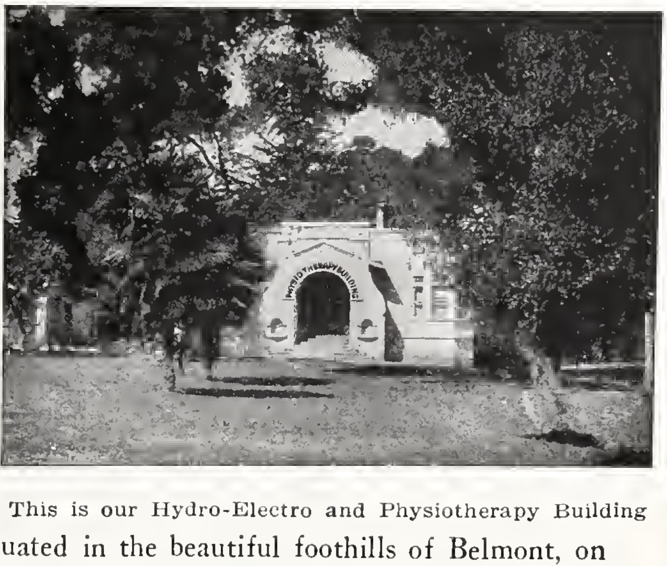

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To meet a definite demand from the medical profession, we have developed, to a high degree of fineness, a Lima Bean FLOUR—for making non-acid breads, muffins, pancakes and waffles for Basic Diet menus!

Lima FLOUR is available in 10-lb. bags at $1.20, and in 100-lb. bags at $10.00. Upon receipt of price and delivery instructions your order will be shipped parcel post or express collect. Send orders, and make check or money order payable to—

CALIFORNIA LIMA BEAN
GROWERS ASSOCIATION
Oxnard, California

TRUTH ABOUT MEDICINES

(Continued from Page 31)

FOODS

The following products have been accepted by the Committee on Foods of the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in accepted foods:

Del Maiz Brand, The New Corn (Minnesota Valley Canning Company, Le Sueur, Minnesota).—A definite variety of corn standardized to taste and consistency with sugar, salt, and water. The composition of the product is: moisture, 74.6 per cent; total solids, 25.4 per cent; ash, 1.1 per cent; reducing sugars, 0.6 per cent; sucrose, 5.8 per cent; protein, 2.7 per cent; fat, 0.9 per cent; crude fiber, 0.3 per cent; total carbohydrates, 20.4 per cent.

Heckers' Cream Farina (Hearts of Wheat) (Hecker H.-O Company, Inc., Buffalo, New York).—A wheat flour middlings or farina. A breakfast cereal. The approximate composition of the product is: moisture, 11.0 per cent; mineral matter, 0.4 per cent; fat, 1.1 per cent; protein, 9.5 per cent; crude fiber, 0.3 per cent; carbohydrates, 77.7 per cent. Heckers' Cream Farina is claimed to be an excellent smooth pure wholesome cereal and to be almost entirely free from bran and roughage that may irritate the intestinal organs of the infant.—*Journal of the American Medical Association,* April 4, 1931, p. 1145.

PROPAGANDA FOR REFORM

Vaccino Antipiogeno Polyvalente Bruschettini and Vaccino Antigonococcico Bruschettini Not Acceptable to New and Nonofficial Remedies.—The Council on Pharmacy and Chemistry reports that Vaccino Antipiogeno Polyvalente Bruschettini and Vaccino Antigonococcico Bruschettini are manufactured by Dr. Prof. A. Bruschettini, Genoa, Italy, and are marketed in the United States by the Pagano Drug

(Continued on Page 45)

THE GRACE DEERE VELIE

METABOLIC CLINIC, LIMITED

For the Treatment of

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Diabetes Mellitus
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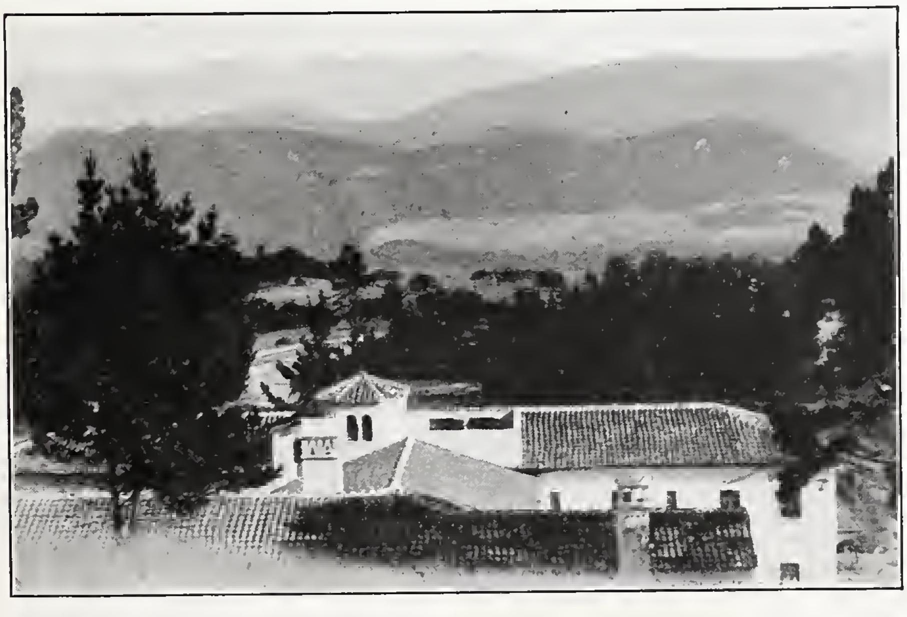
And Other Non-Surgical and Non-Infectious Conditions Requiring Sanatorium Care



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Carmel,
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Thirty beds for maternity patients in a separate building, newly equipped.

Complete services of all kinds for women and children.
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Located in the foothills of the Sierra Madre mountains, at an elevation of 1000 feet. Sixteen miles east of Los Angeles, on the main line of the Santa Fe. Reached also by the Pacific Electric. Equipped for the scientific treatment of tuberculosis and other diseases of the chest. Beautiful surroundings. Close personal attention. Excellent food.

A clinic for the sudy and diagnosis of all diseases of the chest, including asthma, lung abscess and bronchiectasis is maintained in connection with the institution.

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For the treatment and investigation of:

Diabetes, Nephritis, Obesity, Thyroid Disturbances and Cardiac Diseases.

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The Clinic deals with the diagnosis and treatment of all forms of tuberculosis as well as with asthma, bronchiectasis, chronic bronchitis, and other diseases of the chest, and is equipped with complete laboratory and X-Ray, also Alpine and Kromayer lamps and physiotherapy equipment.

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Departments—Diagnosis, Surgery, Internal Medicine, Gynecology, Urology, Eye, Ear, Nose, Throat, Pediatrics, Obstetrics, Orthopedics, Radiology and Pharmacy.

Laboratories fully equipped for basal metabolism determinations, Wassermann reaction and blood chemistry, Roentgen and radium therapy.

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APPROVED CLINICAL LABORATORIES

Excerpts from American Medical Association Essentials for an Approved Clinical Laboratory

DEFINITION

" * * A clinical pathologic laboratory is an institution organized for the practical application of one or more of the fundamental sciences by the use of specialized apparatus, equipment and methods, for for the purpose of ascertaining the presence, nature, source and progress of disease in the human body."*

"Only those clinical laboratories in which the space, equipment, finances, management, personnel and records are such as will insure honest, efficient and accurate work may expect to be listed as approved."

"The housing and equipment should be sufficient to permit all essential technical procedures to be properly carried out."

THE DIRECTOR

"The director of an approved clinical laboratory should be a graduate of an acceptable college or university of recognized standing, indicating proper educational attainments. He shall have specialized in clinical pathology, bacteriology, pathology, chemistry or other allied subjects, for at least three years. He must be a man of good standing in his profession."

"The director shall be on full time, or have definite hours of attendance, devoting the major part of his time to the supervision of the laboratory work."

"The director may make diagnoses only when he is a licensed graduate of medicine, has specialized in clinical pathology for at least three years, is reasonably familiar with the manifestation of disease in the patient, and knows laboratory work sufficiently well to direct and supervise reports."

"The director may have assistants, responsible to him. All their reports, bacteriologic, hematologic, biochemical, serologic and pathologic should be made to the director."

RECORDS

"Indexed records of all examinations should be kept. Every specimen submitted to the laboratory should have appended pertinent clinical data."

PUBLICITY

"Publicity of an approved laboratory should be directed only to physicians either through bulletins or through recognized technical journals, and should be limited to statements of fact, as the name, address, telephone number, names and titles of the director, and other responsible personnel, fields of work covered, office hours, directions for sending specimens, etc., and should not contain misleading statements. Only the names of those rendering regular service to the laboratory should appear on letterheads or other form of publicity."

FEES

" * * There should be no dividing of fees or rebating between the laboratory or its director and any physician, corporate body or group. * * *"*

The following laboratories in California are among those approved by the Council on Medical Education and Hospitals of the American Medical Association:

Clinical Laboratory of Drs. W. V. Brem, A. H. Zeiler and R. W. Hammack, Pacific Mutual Building, Los Angeles, California.

Dr. Marion H. Lippman's Laboratory, Butler Building, 135 Stockton Street, San Francisco.

The Western Laboratories, 2404 Broadway, Oakland.

These laboratories use only standard methods and are fully equipped with the most modern apparatus to make all clinical examinations of value in: **Pathology** (frozen sections when ordered), **Bacteriology, Chemistry, Hematology, Serology, Medico-legal, Basal metabolism, Blood chemistry, Autogenous vaccines** and all other laboratory aids in diagnosis.

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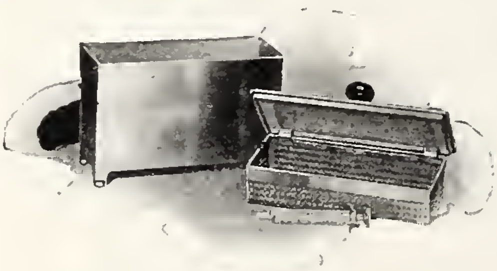

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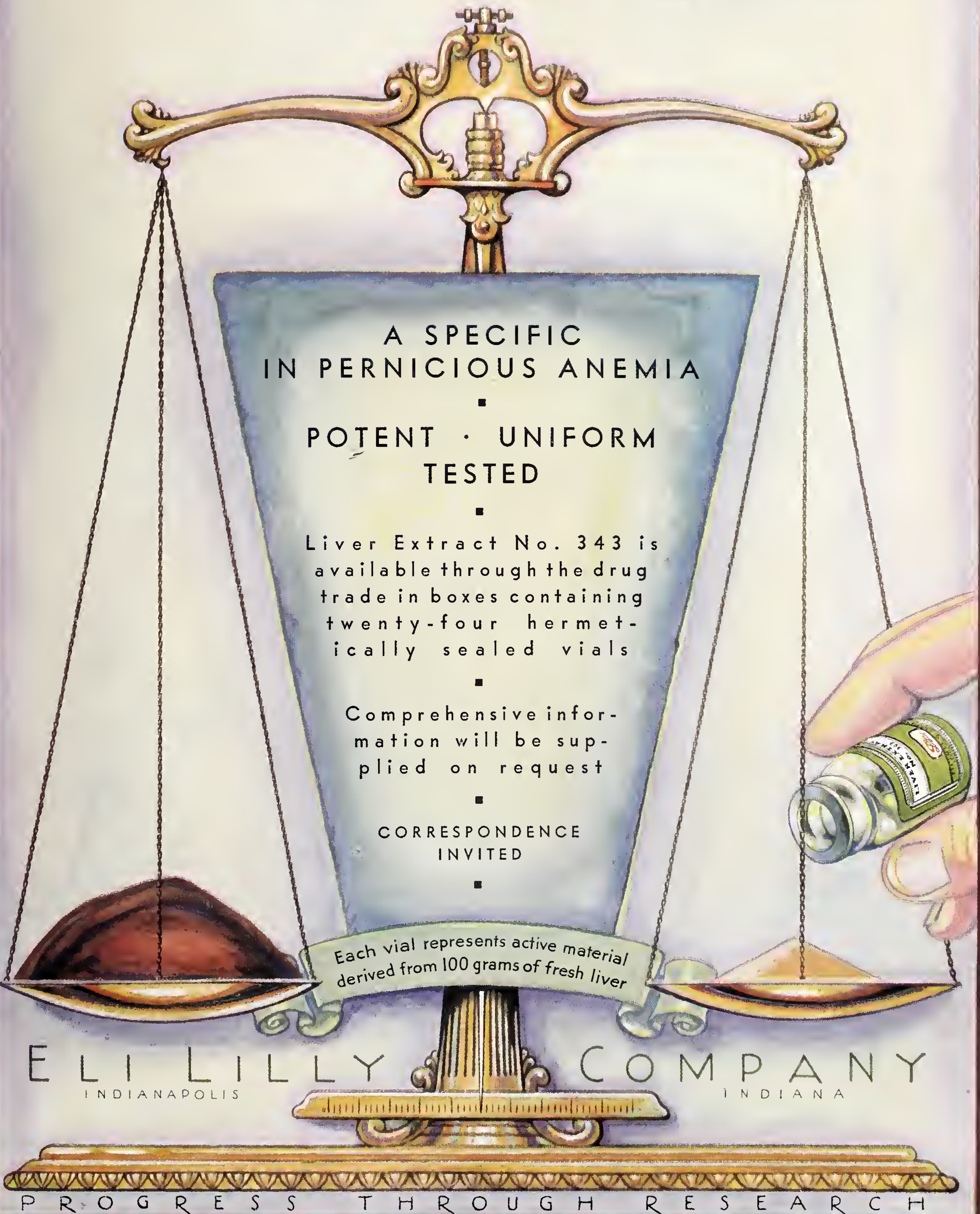

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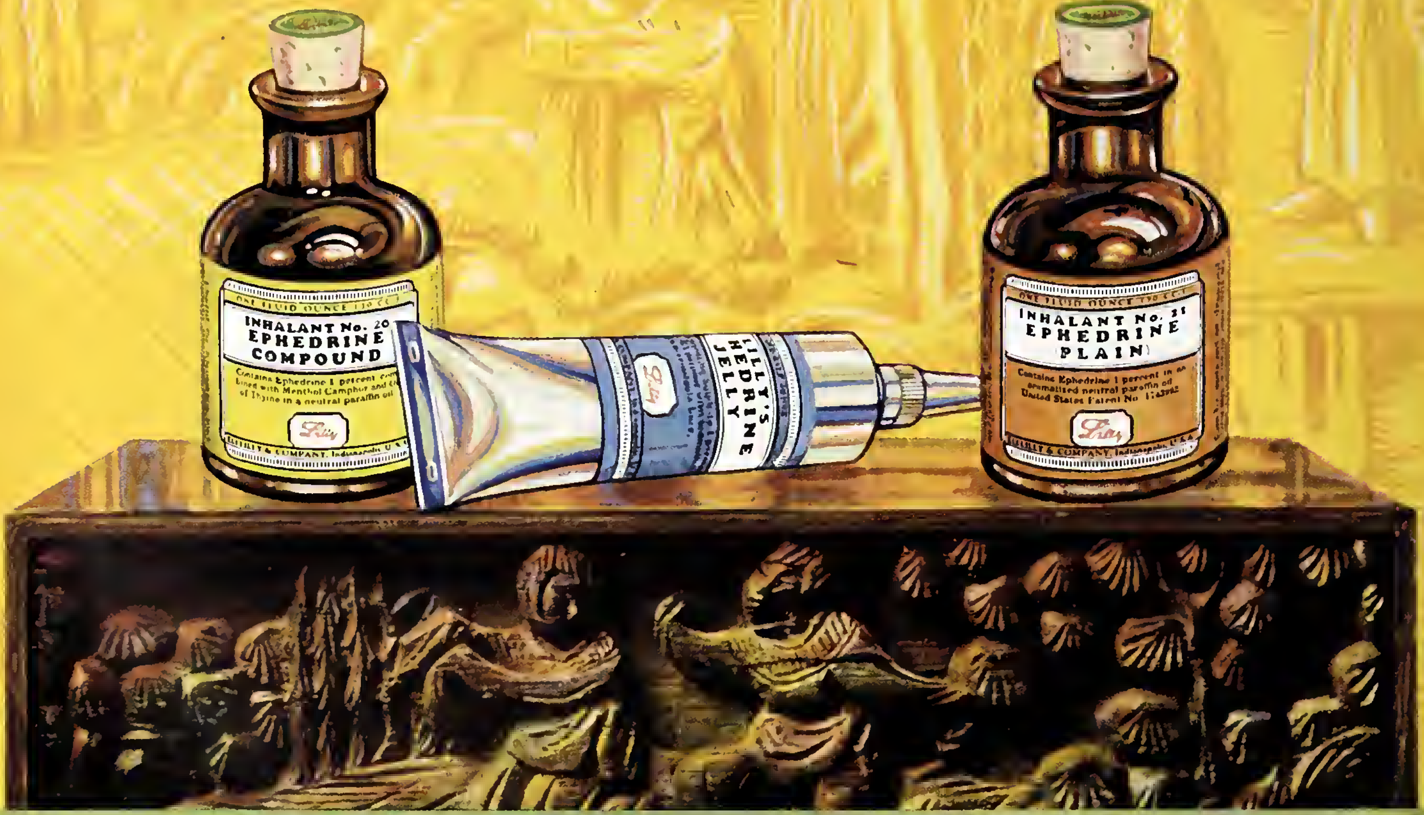
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PLEASURE can be given to a rigid diet—and taste can be contented—when Knox Sparkling Gelatine is combined with the nourishing foods permitted on a diabetic diet.

Knox Gelatine helps the physician relieve the monotony of restricted eating because it can be safely prescribed. It is the plain gelatine—free from sugar or artificial coloring or flavoring. It can be freely used and freely eaten, thereby building small quantities of prescribed foods into satisfying bulk.

Knox Gelatine is so valuable to the physician with diet problems that its use is described in a booklet titled "Diet in the Treatment of Diabetes"—written by a well-known authority—and offered in any quantity to physicians who send for it.

JELLIED CHICKEN IN CREAM

(Six Servings)

	Gms.	Prot.	Fat	Carb.	Cal.
1 tablespoon Knox Gelatine	7	6	..	..	..
¼ cup cold chicken broth or water	..	..	..	..	..
1¼ cups boiling chicken broth, fat free	..	..	..	..	..
½ teaspoon salt	..	..	..	..	..
Pinch pepper	..	..	..	..	..
1 cup cooked chicken, cubed	125	24	20	..	..
¼ cup cream, whipped	55	1	22	1.5	..
Total		31	44	1.5	526
One serving		5	7	..	88

Soak gelatine in cold liquid for five minutes and dissolve in hot broth. Season with salt and pepper and chill until nearly set. Fold in chicken and whipped cream. Turn into molds and chill until firm. Serve on lettuce or garnished with parsley and strip of pimento.

CARROT and SPINACH MOLD

(Six Servings)

	Gms.	Prot.	Fat	Carb.	Cal.
1½ cups cooked carrots cubed	210	2	1	19.5	..
1 tablespoon butter melted	12.5	..	11	..	..
1 egg well beaten	50	7	5	..	..
1 teaspoon salt	..	..	..	..	..
1½ cups cooked spinach chopped	300	6	1	7	..
2 tablespoons butter melted	25	..	21	.	..
½ teaspoon salt	..	..	..	..	..
Sprigs of parsley	..	..	..	..	..
Total		15	39	26.5	517
One serving		2.5	6.5	4	86

Mash carrots with a fork and mix with beaten egg and one tablespoon of melted butter and salt. Fill small greased molds half full of the carrot mixture. Season the chopped spinach, add melted butter and fill molds to top with spinach, packing them tightly. Place molds in pan of hot water and bake in moderate oven for 20 minutes. Turn out on hot platter and serve garnished with parsley.

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Calso Water: Made of distilled water and the ALKALINE SALTS (C. P.) normally present in the healthy body.

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CORN SYRUP AND REFINER'S SYRUP
GOLDEN SYRUP
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Amaizo

GOLDEN SYRUP

(Corn Syrup and Refiner's Syrup)

Dextrin	30.9%
Maltose	23.6
Dextrose	15.0
Sucrose and inverted sugars	6.5
Ash	0.7
Moisture	23.3
	100.0%

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Convention
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June 8-12

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We will be glad to send you, without obligation, a trial-size can of Cocomalt. Use this coupon.

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DELICIOUS HOT OR COLD

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ADDS 70% MORE NOURISHMENT TO MILK

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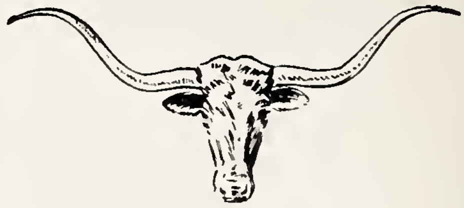

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Distributors for Standard X-Ray Company's X-Ray Apparatus, Hanovia Alpine Sun Lamps, Physiotherapy Equipment.

TRUTH ABOUT MEDICINES

(Continued from Page 34)

Company. According to the label, Vaccino Antipiogeno Polyvalente Bruschettini is a bacterial vaccine made from *Streptococcus* (*hemolyticus* and *viridans*), *Pneumococcus* Frankel, *Staphylococcus* (*aureus* and *albus*), *Staphylococcus citreus, Bacillus prodigiosus,* and *Bacillus coli;* and Vaccino Antigonococcico Bruschettini is a bacterial vaccine made from Gonococcus, Pseudo-Gonococcus, Pseudo-Diphtheria Bacillus, Enterococcus, *Staphylococcus* (*albus and aureus*), and *Staphylococcus citreus.* In 1918 the Council, in refusing admission to a number of mixed vaccines, announced as its attitude on this class of preparations "that there should be admitted to New and Nonofficial Remedies only those vaccine mixtures for which there is acceptable evidence to indicate that the use of the particular mixtures is rational." Since that time the Council has refused recognition to many vaccine mixtures for lack of acceptable evidence of their worth or rationality. No acceptable evidence for the Bruschettini vaccine mixtures was submitted; accordingly the Council declared them unacceptable for New and Nonofficial Remedies.—*Journal of the American Medical Association,* April 4, 1931, p. 1145.

Listerine.—The American Medical Association Chemical Laboratory reports on the chemical and bacteriological examination of Listerine. It finds the composition of Listerine essentially that of a solution containing 25 per cent alcohol, 2.4 per cent of boric acid, 0.4 per cent of benzoic acid, with aromatic substances, chiefly thymol (about 0.75 per cent). The laboratory concludes that Listerine is a proprietary name for a solution of well known substances which has little bacteriologic merit. If a physician desires to prescribe a complex weakly antiseptic mouth wash—and this is not to be recommended—he has at his disposal the well known and nonsecret Antiseptic

(Continued from Page 47)

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TRUTH ABOUT MEDICINES

(Continued from Page 45)

Solution N. F. (Liquor Antisepticus) which, like Listerine, has very poor antiseptic properties. The bacteriologic experiments show that Listerine will do little more than a weak hydro-alcoholic solution of thymol. On dilution with four parts of water, it shows no bacteriologic action.—*Journal of the American Medical Association,* April 18, 1931, p. 1303.

Pepsodent Antiseptic.—According to the Pepsodent Company the composition of Pepsodent Antiseptic is as follows: Chlorthymol, 0.2 per cent; benzoic acid, 0.2 per cent; boric acid, 10 per cent; citric acid, 0.1 per cent; tartaric acid, 0.1 per cent; flavor, 0.1417 per cent; color, 0.008 per cent; glycerin, 10 per cent; alcohol, 25 per cent; water, 54.2449 per cent. The phenol coefficient is given at the ridiculously low figure of 0.15.—*Journal of the American Medical Association,* April 18, 1931, p. 1332.

Colfax School for the Tuberculous

Colfax, California

(Altitude 2400 feet)

This institution is for the treatment of medical tuberculosis and of selected cases of extrapulmonary (so-called surgical) tuberculosis.

The Colfax School for the Tuberculous consists of five Hospital Units with beds for patients who come unattended and a Housekeeping Cottage Colony for patients and their families.

The Colfax School for the Tuberculous offers the following advantages:

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2. Patients are taught how to secure an arrest of their disease, how to remain well when once the disease is arrested, and how to prevent the spread of the disease.

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5. Colfax is accessible. It is on the main line of the Ogden Route of the Southern Pacific R. R. and has excellent train service. It can be reached by paved highway, being on the Victory Highway, with paved roads all the way to Colfax.

For further information address

ROBERT A. PEERS, M. D., *Medical Director*
Colfax, California

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